

THE LIMIT OF HUMAN FELICITY:
RADIO'S TRANSITION FROM HOBBY TO HOUSEHOLD UTILITY
IN 1920S AMERICA

By

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Abstract of Dissertation Presented to the Graduate School
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By

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Between World War I and World War II, radio in the American home developed from an electrical experimenter's pastime to a pervasive form of popular entertainment, an important medium of mass communication, and an integral part of daily life. This study, based primarily on material in the popular press, describes the transition of radio from a hobby to a fad to a household utility in the United States during the 1920s, and seeks to explain why and when radio took its place in the American household.

Radio gained publicity and respect during the first two decades of the century as an aid to safety at sea. Technological development allowed the public to begin participating in the radio hobby by around 1920, and radio listening became a widespread fad in 1922. This study finds that radio soon showed itself useful to women in the home,

as broadcasters began offering daytime "service" programming in an era when most evening radio presentations were still perfunctory programs featuring amateur musicians. Thus the female audience was important to the development of radio into something more than a fad or a scientific stunt. By the spring of 1926, daytime "service" programming was universally available, and both broadcasters and advertisers had come to see the value of serving the segment of the audience that controlled most of the purchasing power of the family. Receiving equipment had become easy to use, and loudspeakers allowed listeners the freedom to move around the room and perform other activities while listening. The audience began to make use of radio in ways that would mark radio's place in the American household during the subsequent three decades of broadcasting. Radio can be said to have achieved the status of "household utility" by the spring of 1926.

CHAPTER 1 INTRODUCTION

It appears to me . . . that if we could have devised an arrangement for providing everybody with music in their homes, perfect in quality, unlimited in quantity, suited to every mood, and beginning and ceasing at will, we should have considered the limit of human felicity already attained, and ceased to strive for further improvements.¹

Edward Bellamy, Looking Backward (1887)

Background

At the time of the First World War wireless communication provided a scientific pastime for a small segment of the American public. By the beginning of World War II, radio had become a pervasive source of popular entertainment and information. This study examines the transition of radio from a hobby to a fad to a household utility in the United States during the 1920s.

Since the mid-1800s the public had shown increasing interest in the growing world of scientific and technical wonders. Science, combining the magical and the practical, became a source of entertainment both passive and active for

¹Edward Bellamy, Looking Backward (1887; Boston: Houghton, 1926) 113-114.

the young, the adventurous, and the scholarly.² Samuel Morse demonstrated his telegraphic system for communicating along a wire by code in 1838, and by 1861 the first transcontinental telegraph circuit had been completed.³ Telephonic communication developed not long afterward, and Alexander Graham Bell patented his equipment for transmitting and receiving the human voice by wire in 1876.⁴ By 1893 Budapest, Hungary, was served by twelve-hour-a-day "broadcasts" of news, music, and lectures over the telephone wires of Telefon-Hirmondo.⁵ In the United States, the New Jersey Telephone Herald Company inaugurated a similar daily service in October of 1911.⁶

Wireless communication, using radio or "Hertzian"⁷

²Alan Sutton, A Victorian World of Science (Boston: Hilger, 1986).

³Andrew F. Inglis, Behind the Tube: A History of Broadcasting Technology and Business (Boston: Focal, 1990) 29.

⁴Sydney W. Head and Christopher H. Sterling, Broadcasting in America, 6th ed. (Boston: Houghton, 1990) 33.

⁵Thomas S. Denison, "The Telephone Newspaper," The World's Work 1 (1900-1901): 640-641.

⁶G. C. B. Rowe, "Broadcasting in 1912," Radio News 6 (1925): 2219+.

⁷Named for Heinrich Hertz, who in 1888 proved the existence of invisible waves of radio energy postulated in 1873 by James Clerk Maxwell.

waves, was developed primarily by Guglielmo Marconi during the final years of the nineteenth century. In 1901, Marconi sent a single code letter by wireless across the Atlantic from Cornwall, England, to Newfoundland.⁸ The era of wireless communication had begun.

By the end of the new century's first decade, experimenters had developed the technique of radiotelephony, or the wireless transmission of the voice. Although radiotelegraphy and radiotelephony were used for point-to-point communication, any business or individual with standard receiving equipment could intercept the messages. It was this lack of privacy of wireless communication that was later turned to advantage in the concept of broadcasting.

As early as 1910 Lee de Forest transmitted grand opera to the public by wireless telephony.⁹ And although David Sarnoff's 1916 memo proposing a "Radio Music Box"¹⁰ is America's best-known broadcasting prophecy, three years earlier Carl Snyder had written in Collier's magazine:

⁸Christopher H. Sterling and John M. Kitross, Stay Tuned: A Concise History of American Broadcasting (Belmont: Wadsworth, 1978) 26.

⁹"Wireless Melody Jarred," New York Times 14 Jan. 1910: 2.

¹⁰David Sarnoff, Looking Ahead: The Papers of David Sarnoff (New York: McGraw, 1968) 31.

The future use [of wireless telephony may be] to distribute news and messages of all sorts from central stations to an enormous number of subscribers. And music, too, and possibly plays and pictures as well. . . .¹¹

Radiotelegraphy and radiotelephony became a popular scientific pastime, as experimenters built equipment, sent and received messages, and eavesdropped on commercial communications. No official figures exist for the popularity of wireless experimentation before the licensing of amateur transmitters began in 1912, but the magazine Modern Electrics claimed circulation of 52,000 in 1911, and according to an article in American Magazine by 1916 75,000 amateurs were building their own equipment and testing their work by communicating over ever greater distances.¹²

The American Navy suspended amateur and nonmilitary experimental radio activity for the duration of the World War; after transmitter restrictions were lifted in 1919, several hundred thousand wireless enthusiasts¹³ eagerly reclaimed the ether, including young men trained in the service, and boys and girls whose imaginations were sparked by the idea of moving the human voice through air. In

¹¹Carl Snyder, "The World's New Marvels," Collier's 25 Oct. 1913: 22.

¹²"75,000 American Boys Have This Enthusiasm," American Magazine June 1916:103.

¹³F. A. Collins, "Boys and the Wireless," Woman's Home Companion April 1920: 44.

addition to amateur experimenters and two-way communicators, a growing body of wireless hobbyist-listeners merely eavesdropped on commercial and amateur communication both in code and by voice, building or assembling equipment and engaging in competitions (with themselves and others) to bring in the most, and most distant, signals. After experimenters began transmitting music from phonograph records, the hobbyist-listeners could enjoy "radiophone concerts" as well.

In the Pittsburgh area, the popularity of Dr. Frank Conrad's phonograph record concerts led his employer to erect a broadcasting station; most broadcast historians agree that radio station KDKA, created and sustained by Westinghouse Electric and Manufacturing Company as a scheme to promote the sale of radio equipment, was the first ongoing, commercially based radio transmitting facility sending entertainment and information to the public on an announced schedule.¹⁴ According to most textbooks, American broadcasting was "born" on the evening of November 2, 1920, when KDKA broadcast presidential election returns

¹⁴For a discussion of the other contenders for "first station," see Lawrence W. Lichty, "Who's Who on Firsts: A Search for Challengers," Journal of Broadcasting 10 (1965) 83; and Joseph R. Baudino and John M. Kitross, "Broadcasting's Oldest Stations: An Examination of Four Claimants," Journal of Broadcasting 21:1 (1977) 61-83.

to radio amateurs in Pittsburgh and around the country. By the end of 1922 interest in radio had taken on the dimensions of a national fad; more than 500 broadcasting stations were on the air around the country,¹⁵ and radio broadcasting's listening audience had grown to an estimated three million.¹⁶

Although throughout the 1920s thousands of Americans participated in the now-organized pastime of amateur radio--sending and receiving messages, tinkering with antennas and circuits--by the end of the decade a much larger number could be found gathered in the living room at night, "listening in" to their favorite radio programs. By 1930 radio had come to be considered a household utility, and an important part of America's daily life.

Purpose

Most discussions of the developing years of radio broadcasting after the initial period of individual invention have been framed in terms of the struggles among industrial and governmental forces. Yet without public curiosity and participation, radio could not have made the transition from a technical hobby to America's first

¹⁵Christopher H. Sterling, Electronic Media: A Guide to Trends in Broadcasting and Newer Technologies, 1920-1983 (New York: Praeger, 1984) 5.

¹⁶"Statistical Survey of the Radio Business," Radio Retailing March 1928: 36.

electronic home entertainment and information service. Little has been written about the feelings and actions of people outside the formal structure of the emerging industry and its regulators during the years in which the public became aware of the possibilities and pleasures of radio listening, and no attempt has been made to identify a point at which radio took its place as a household utility in the American home.

The purpose of this research is to describe by what means the American public learned about the new pastime of radio listening, to understand for what reasons the public was moved to participate in the radio fad, and to identify the point at which broadcast listening made the transition from a hobby to an important part of America's daily life.

Research Questions

The primary questions this study sought to answer were:

1. How did it happen that America's wireless hobby developed during the 1920s into the daily activity of radio listening, transforming radio into an information and entertainment service considered a household utility?

2. At what point did radio become a household utility?

Answering those questions required asking several others: (1) How did people learn about radio? (2) How did people come to first try radio listening? (3) What groups

of people made up the earliest radio audience? (4) What were the characteristics of radio's place in the American household that caused it to be considered a household utility? and (5) What have been the uses of radio in the years since 1930?

Scope and Limitations

This study is an attempt to illuminate how the United States listening public came to accept radio broadcasting service, and to identify the point at which radio became a useful service to the American home. This study is a chronological narrative of broadcasting's first decade as experienced by the listening public, based exclusively on contemporaneous material, primarily accounts in the popular press. No first-person accounts such as oral history reminiscences or personal interviews recorded after the era under study were used.¹⁷

¹⁷During the 1950s, many pioneer broadcasters participated in Columbia University's Oral History Research Project. Some excerpts were published as "Music in the Air . . . and Voices on the Crystal Set," American Heritage Aug. 1955: 65-88. Unfortunately, these remembrances are filtered not only through the intervening years but through the subject's later success and accomplishments in the field of broadcasting. The Columbia collection, which contains many errors and inaccuracies, has been called "more nostalgic and reminiscent than historical in nature," by William McKinley Randle, Jr., The History of Radio Broadcasting and its Social and Economic Effect on the Entertainment Industry, diss., Case Western Reserve U, 1966 (Ann Arbor: UMI, 1967) 77. In addition, a romantic view of radio's "golden age" can easily color public remembrance of radio's place in the life of the family; see Lesley Johnson, The Unseen Voice: A Cultural Study of Early Australian Radio (London: Routledge,

Definitions

The following section defines certain key terms used in this study. Any work based primarily on accounts in general-circulation magazines and newspapers must guard against adopting the imprecise terminology common in the popular press. The contemporary media often identified or described developing communication technologies incorrectly; thus, the following definitions may not apply to some quoted material.

Point-to-point communication. In point-to-point communication a message is sent from one individual sender or sending location to a particular receiving individual or location; point-to-point communication usually implies the existence or possibility of two-way communication. During the 1920s, four types of electrical point-to-point communication over distance were in use:

- 1) Telegraphy, the sending of messages by wire using a code of electrical pulses;

1988) ix. For discussions on the general shortcomings of oral recollection, see Charles L. Briggs, Learning How to Ask. (Cambridge: Cambridge UP, 1986) 13; Anthony Seldon, Contemporary History: Practice and Method (Oxford: Blackwell, 1988) 13; Anthony Seldon and Joanna Pappworth, By Word of Mouth: 'Elite' Oral History (London: Methuen, 1983) 17-26; Paul Thompson, The Voice of the Past: Oral History (Oxford: Oxford UP, 1978) 210. Clearly, finding suitable interviewees seventy years after the era under study would also pose a considerable problem.

- 2) Telephony, the sending of voice messages by wire;
- 3) Radiotelegraphy, the wireless transmission of telegraphic code;
- 4) Radiotelephony, the wireless transmission of the voice.¹⁸

Broadcasting. Broadcasting, a one-way point-to-multipoint service,¹⁹ has been defined as the "sending of uncoded messages to an undifferentiated audience."²⁰

Radio.²¹ The word "radio" as used in the title and throughout this work means the social complex that developed around America's broadcasting service as perceived or experienced by members of the general public. Although the

¹⁸The technologies are listed in the order in which they were developed.

¹⁹The Federal Communications Commission currently uses the term "multipoint" to refer to certain specialized types of program distribution; see 47 C.F.R. Sec. 21.1 (1991).

²⁰Daniel J. Czitrom, Media and the American Mind: From Morse to McLuhan (Chapel Hill: U of North Carolina P, 1982) 71.

²¹According to the Institute of Radio Engineers, the word radio "came into marked use in place of 'wireless' in 1907, and was officially adopted by the Institute of Radio Engineers in 1911 and shortly thereafter by the United States Government." Robert H. Marriott, "United States Radio Development," Proceedings of the Institute of Radio Engineers 5 (1917) 187. A later article by the same author dates the "standardization" of the term to 1913. Robert H. Marriott, "United States Radio Broadcasting Development," Proceedings of the Institute of Radio Engineers 17 (1929): 1396.

noun "radio" can mean the receiving set (as in, "I just bought a radio"), the field of endeavor ("I just got a job in radio"), or the technology of radiotelephony ("the message was sent by radio"), its general use in this study encompasses the receiving set, the existence of a broadcast signal, the content of that signal, and the act of listening. Although David Sarnoff proposed making radio a "'household utility' in the same sense as the piano or phonograph,"²² it was the cultural complex developed by the advent of broadcasting that became a "household utility" rather than the physical object called the radio receiver.

Eras of broadcast history. In this study, the years of America's broadcast listening before the advent of television have been divided into three eras: the hobby, the fad, and the household utility.

Hobbies. A hobby has been defined as a "specialized pursuit beyond one's occupation that has no professional counterpart." The pursuit must involve some level of skill, ability, or knowledge, and have a goal (immediate or long-term) other than entertainment or amusement.²³

²²Sarnoff, Looking Ahead 31.

²³Robert A. Stebbins, Amateurs: On the Margin between Work and Leisure (Beverly Hills: Sage, 1979) 34.

Amateurs. Amateurs "engage part-time in activities that for other people constitute full-time work roles."²⁴ The beginning amateur who has not yet achieved proficiency may be called a novice. The distinction between hobbyist and amateur is necessary to this study; an organized amateur class of radio operators, whose work during the 1920s closely paralleled that of professional commercial wireless operators, has existed since before World War I, and the development of amateur radio is outside the scope of this research.

Fads. A fad is "a pursuit or interest followed usually widely but briefly and capriciously with exaggerated zeal and devotion."²⁵ Research on fads is scanty, and some work, such as Meyersohn and Katz's 1957 "Notes on a Natural History of Fads" confuses fad with fashion, using the terms interchangeably.²⁶ Fashions, however, are most often merely

²⁴Stebbins 28.

²⁵"Fad," Webster's Third New International Dictionary, 1981 ed. A recent attempt to define the word "fad" yielded this "minimum consensus" definition: "A non-traditional preoccupation by diffuse collectivities on a circumscribed object or process." B. E. Aguirre, E. L. Quarantelli, and Jorge L. Mendoza, "The Collective Behavior of Fads: The Characteristics, Effects, and Career of Streaking," American Sociological Review 53.4 (1988): 569. A "craze" hits more swiftly than a fad, and fades more quickly. See Donald A. Laird, "Have You a Fad?" Review of Reviews March 1935: 33.

²⁶Rolf Meyersohn and Elihu Katz, "Notes on a Natural History of Fads," The American Journal of Sociology 62 (1957): 594-601.

variations on a theme--such as shirt color or automobile body style--and are frequently cyclical, whereas fads are most often based on inventions or innovations that lack historical continuity.²⁷ Fads usually grow rapidly and disappear completely, although some fads remain present in society at a level below their peak of popularity.²⁸ Technological innovations often enter the culture originally as fads.²⁹

Household utility. The phrase "household utility" to describe radio's third phase is borrowed from David Sarnoff, who as a 25-year-old manager at the American Marconi Company in 1916 proposed a plan "to make radio a 'household utility,'" with a "Radio Music Box" that could bring music, lectures, sports scores, and "events of national importance" into the home.³⁰ Although magazine articles throughout the 1920s used the term "household utility," the meaning of the phrase was never made clear.³¹ Dictionary definitions of

²⁷Herbert Blumer, "Fashion," International Encyclopedia of the Social Sciences ed. David L. Sills (New York: McMillan, 1968) 5: 346.

²⁸Thomas S. Robertson, Innovative Behavior and Communication (New York: Holt, 1971) 49.

²⁹Aguirre, Quarantelli, and Mendoza 577.

³⁰Sarnoff, Looking Ahead 31.

³¹During the 1920s the phrase "public utility" was also used, as people asked if radio should become a regulated monopoly similar to electric service. See Robert D. Heinl, "Is a Broadcasting Station a Public Utility?" Public

utility include (1) Something useful or designed primarily for use; adapted for general use; having or designed for a number of useful and practical purposes; capable of serving in any of various roles or positions; and (2) the capacity to satisfy human wants or desires.³² A "household utility," as the term is used in this study, serves a number of useful and practical purposes and is adapted for general use by the household as well as its individual members. The era of radio's role as household utility is marked by the service's increased "capacity to satisfy human wants and desires" and the importance of its role in the social or emotional life of its listeners. A utility may be either a service or the piece of equipment providing such service;³³ thus the term "household utility" may also refer to the radio receiving set itself.³⁴

Utilities Fortnightly 6 (1930): 344-349.

³²"Utility," Webster's Third New International Dictionary, 1981 ed.

³³"Utility," Webster's Ninth New Collegiate Dictionary, 1988 ed.

³⁴An alternate definition of "utility" is "A device used as an adjunct to a more important machine." "Utility," Webster's Third New International Dictionary, 1981 ed. As radio became a household utility, the public's attention shifted from the receiving apparatus itself to a more important aspect, the service provided by radio broadcasting.

Methodology

In 1961, Daniel Boorstin pointed out that subjects like the history of photography, radio, and television were "generally considered beneath the dignity (or at best on the periphery) of the historian's profession."³⁵ Until recently, historical accounts of communications technology tended to be either technical descriptions or theoretical constructs, rather than social or cultural narratives.³⁶

In 1979 the Journal of Popular Culture devoted an issue to the subject of radio, a subject the lead article noted had in the past been "left almost entirely to the nostalgia merchants and their patrons."³⁷ Although recently broadcasting has emerged as a rich field for study by business and political historians and economists, radio is often ignored in favor of the more modern television.³⁸ Furthermore, most studies of broadcast development after the initial period of individual invention have focused on the

³⁵Daniel J. Boorstin, The Image: A Guide to Pseudo-Events in America (New York: Harper, 1961) 264.

³⁶David Paul Nord, "The Nature of Historical Research," Research Methods in Mass Communication, 2nd ed., ed. Guido H. Stempel III and Bruce H. Westley (Englewood Cliffs: Prentice, 1989) 310.

³⁷Alan Havig, "Beyond Nostalgia: American Radio as a Field of Study," Journal of Popular Culture 12 (1979): 218.

³⁸William David Sloan and Donald G. Godfrey, "American Radio, 1920-1948: Traditional Journalism or Revolutionary Technology?" Perspectives on Mass Communication History, ed. William David Sloan (Hillsdale: Erlbaum, 1991) 300.

industry's structure and regulation. There continues to be a shortage of historical studies of radio's audiences.

Warren Susman has suggested an "ecological" approach that takes account of the total cultural context of communication,³⁹ and James Carey and others have long called for a more holistic study of communication history.⁴⁰ The methodology of this study is cultural analysis through immersion in contemporaneous sources, following Pauly's recommendation of "immersion in the materials."⁴¹ The emphasis is narrative rather than theoretical or social-scientific. In the historiography of technology, Buchanan wrote in 1991, the "theoretical element has received too much emphasis and . . . the time has come to reassert the importance of narrative."⁴² Historical narrative offers the most complete response to research questions that ask the

³⁹Warren Susman, "Communication and Culture," Mass Media Between the Wars: Perceptions of Cultural Tension, 1918-1941, ed. Catherine L. Covert and John D. Stevens (Syracuse: Syracuse UP, 1984) xviii.

⁴⁰James W. Carey, "The Problem of Journalism History" Journalism History 1.1 (1974): 4; David Paul Nord, "The Nature of Historical Research," Research Methods in Mass Communication, 2nd ed., ed. Guido H. Stempel III and Bruce H. Westley (Englewood Cliffs: Prentice, 1989) 313.

⁴¹John J. Pauly, "A Beginner's Guide to Doing Qualitative Research in Mass Communication, Journalism Monographs 125 (1991): 19.

⁴²R. A. Buchanan, "Theory and Narrative in the History of Technology," Technology & Culture 32.2 (1991): 365.

process by which a phenomenon came about ("How did it happen that . . .?")⁴³

The use of contemporaneous sources helps prevent inadvertent presentism. Any discussion of the development of what is now a pervasive communication technology is susceptible to such historiographic pitfalls as the so-called teleological fallacy, "the view that events occurred in the past simply for the purpose of creating the present situation."⁴⁴ The historian of a phenomenon that both continues to exist and continues to change must guard against present-mindedness. In When Old Technologies Were New, Carolyn Marvin wrote that we often see history as the process by which "our ancestors looked for and gradually discovered us, rather than as a succession of distinct social visions, each with its own integrity and concerns."⁴⁵ What Robert E. Park wrote of the "Natural History of the Newspaper" in 1925 is even more true of radio broadcasting: it is "the outcome of a historic process in which many individuals participated without foreseeing what the

⁴³Nord 299.

⁴⁴George H. Daniels, "Technological Change and Social Change," Technology and Change, ed. John G. Burke and Marshall C. Eakin (San Francisco: Boyd, 1970) 96.

⁴⁵Carolyn Marvin, When Old Technologies Were New (New York: Oxford UP, 1988) 154.

ultimate product of their labors was to be. . . . No one sought to make it just what it is."⁴⁶ For these reasons, the primary sources for this study were solely those written without the knowledge of what American broadcasting was to become in later decades.

Sources

Magazines and Newspapers

Central to this study is an understanding of how America learned about the new pastime of radio listening. Magazines and newspapers of the period provided the primary data, as an indication of what type of information the public received through the popular press. In addition, articles, stories, letters, and advertisements in newspapers and magazines often reflect or describe prevailing public attitudes. Page-by-page examination of American Magazine for the years 1920 through 1930, for example, provided insight into the publishers' perception of radio's place in American life, and also documented the development of the advertising of radio receivers. Research for this study also included an examination of many of the decade's other general-interest periodicals, such as the Saturday Evening Post, as well as elite magazines like Literary Digest and

⁴⁶Robert E. Park, "The Natural History of the Newspaper," The City, ed. Robert E. Park, Ernest W. Burgess, and Robert D. McKenzie (Chicago: U of Chicago P, 1925) 80.

various specialty magazines, including technical publications such as Scientific American and Popular Science Monthly. The various enthusiast magazines such as Wireless Age, Radio Broadcast and Radio News--magazines that actually monitored the changes in public use and perception of radio--were useful for their frank editorial discussions of the spread of interest in broadcasting (a trend viewed, in some cases, with alarm and dismay). In the case of Radio Broadcast and Radio News, all issues from the period under study were examined. Additionally, the Readers' Guide to Periodical Literature was used to locate stories about radio in any of the more than 100 magazines indexed therein.⁴⁷

In the early 1920s several newspaper publishers conceived of radio as a natural addition to their journalistic enterprises as well as a novelty capable of generating publicity and goodwill for their papers; at the same time, other publishers viewed the new technology as a threat to their monopoly as the community's source of timely information and its major advertising outlet.⁴⁸ Nevertheless, many newspapers printed complete schedules of

⁴⁷Readers' Guide to Periodical Literature (New York: Wilson). Between 1919 and 1924 the guide indexed 108 publications; between 1925 and 1928, 126.

⁴⁸By the mid 1920s newspaper publishers and their trade press had already begun the anti-radio campaigns that would culminate in the Press-Radio War of the 1930s.

local and national broadcast programming, as well as radio columns offering technical and program information and commentary. The newspapers chosen for this study included the New York Times, as America's newspaper of record; the Detroit News, probably the first major newspaper to own a radio broadcasting facility; the Pittsburgh Post, hometown paper of pioneer station KDKA; the Chicago Tribune, for coverage of middle America's growing interest and participation in radio; the Miami Herald, for an understanding of how interest in radio developed in areas geographically distant from the early broadcasting centers of the northeast and midwest; and the Los Angeles Times, for coverage of west coast radio development. In fact, coverage of the development of broadcasting seldom seemed tied to the location of the major broadcasting stations after 1922; radio as a technology easily crossed state and regional barriers, and the early interest in reception of distant stations gave the phenomenon a national flavor. Thus, the choice of newspapers served more to provide a variety of editorial emphases than geographical contrast. Because the methodology required close reading of entire issues from various years, newspapers were selected from those available for daily use in the University of Florida library.

Listener Letters

The Smithsonian Institution's Clark Radioana collection, amassed and catalogued by the man who became

RCA's corporate historian, contains valuable correspondence from the files of early radio's major corporate powers in addition to newspaper clippings and scrapbooks covering all aspects of wireless technology. The Broadcast Pioneers Library in Washington, DC, a mostly uncatalogued collection of donations from individuals and businesses, includes station files of listener correspondence, performers' scrapbooks, and other ephemera and memorabilia of early radio. Both collections provided listener correspondence and station logs and program listings for this study.

Contemporaneous Studies

Additional sources of information include contemporaneous studies such as Robert and Helen Merrell Lynd's 1929 study Middletown,⁴⁹ Report of a Research into the Attitudes and Habits of Radio Listeners (1933)⁵⁰ and Recent Social Trends in the United States (1933).⁵¹

Uses and Gratifications Studies

The phrase "household utility" suggests a connection with "uses and gratifications" research, which is concerned

⁴⁹Robert S. Lynd and Helen Merrell Lynd, Middletown: A Study in American Culture (New York: Harcourt, 1929).

⁵⁰Clifford Kirkpatrick, Report of a Research into the Attitudes and Habits of Radio Listeners (St. Paul: Webb, 1933).

⁵¹President's Research Committee on Social Trends, Recent Social Trends in the United States (New York: McGraw, 1933).

with society's expectations for mass media, and the ways in which the media are used to satisfy society's needs.⁵² Contemporary studies of the ways in which individuals made use of the medium of radio during the 1930s, 1940s, and 1950s help point to specific stages at which radio was able to satisfy particular needs and help identify some of the specific uses that characterized radio's era of household utility.⁵³ Frederick H. Lumley's 1934 Measurement in Radio provided a synthesis of the results of radio research to that date that included mail surveys, personal and telephone interviews, sales statistics, program attendance, and analyses of audience mail.⁵⁴

Plan of the Study

The first chapter of this study includes the background

⁵²Elihu Katz, Jay G. Blumler, and Michael Gurevitch, "Utilization of Mass Communication by the Individual," The Uses of Mass Communication: Current Perspectives on Gratifications Research, ed. Jay G. Blumler and Elihu Katz (Beverly Hills: Sage, 1974) 20.

⁵³For example, Hadley Cantril and Gordon W. Allport, The Psychology of Radio (New York: Harper, 1935); Paul F. Lazarsfeld and Patricia L. Kendall, eds., Radio Listening in America: The People Look at Radio--Again (New York: Prentice, 1948); Paul F. Lazarsfeld and Frank N. Stanton, eds., Radio Research 1941 (New York: Duell, 1942); Paul F. Lazarsfeld and Frank N. Stanton, eds., Radio Research 1942-1943 (New York: Duell, 1944); Paul F. Lazarsfeld and Harry Field, The People Look at Radio (Chapel Hill: U of North Carolina P, 1946); Paul F. Lazarsfeld, Radio and the Printed Page (New York: Duell, 1940).

⁵⁴Frederick H. Lumley, Measurement in Radio (Columbus: Ohio State UP, 1934) 2.

of the subject, a description the study's methodology and sources, and definitions of some terms used in describing the three radio eras under study. It also includes a review of the major research that has addressed questions about the nature and timing of radio's development. The second chapter describes in detail the development of radio listening from the post-WWI wireless hobby to the beginning of the radio fad. Chapter three describes the radio fad of 1922. Chapter four describes the changes in the service and its uses that turned the radio fad into a household utility. Chapter five presents conclusions regarding the nature and timing of the transition from era to era and the beginning of radio's place as a household utility.

Previous Research

In a 1979 review essay, Philip T. Rosen wrote that "while pundits have rhapsodized about broadcasting and its impact on almost every facet of American society, historians have largely ignored it" or at best have treated the advent of broadcasting as an event rather than a process.⁵⁵ Rosen himself, however, is guilty of neglecting one important aspect of broadcast history when he ignores the audience as one set of participants in the development of American

⁵⁵Philip T. Rosen, "The Marvel of Radio," American Quarterly 31 (1979): 577.

broadcasting, along with "government bureaucrats, businessmen, legislators, network executives, entertainers, and advertisers."⁵⁶ The radio listener, however passive or active, was an important player in the unfolding creation of American broadcasting during the 1920s. Little research has examined the process by which the American people became aware of the new medium, and how and when radio took its place as a household utility.

Previous studies of broadcasting's early years can be divided into three types: institutional histories, technological histories, and cultural histories. Institutional histories are characterized by an examination of the structure of broadcasting organizations or the broadcasting system, and of changes in management or governance. Technological histories focus on the development of the medium's technology and equipment; usually determinist in nature, technology-based studies may view societal changes as the result of changes in technology. Cultural histories recount the social context of historical development, often examining the ways in which society influences the development of a technology or a medium.

⁵⁶Rosen 574.

Institutional Histories

Business historians need only point to the 1916 "Radio Music Box" memo of David Sarnoff, the office boy who would be radio's king, to defend the view that American broadcasting was a corporate creation. Gleason Archer's 1938 History of Radio to 1926 and later Big Business and Radio and William Banning's study of American Telephone & Telegraph's WEAf present a well-documented but exclusively corporate view of radio's development.⁵⁷ More recently, several articles have examined the development of American broadcasting as case studies in organizational change.⁵⁸

Erik Barnouw's three-volume History of Broadcasting in the United States,⁵⁹ while the most comprehensive and detailed examination of the subject, is a primarily anecdotal discussion of the development of the structure and

⁵⁷Gleason L. Archer, History of Radio to 1926 (New York: American Historical Society Press, 1938); Gleason L. Archer, Big Business and Radio (New York: American Historical Company, 1939); William Peck Banning, Commercial Broadcasting Pioneer: The WEAf Experiment (Cambridge: Harvard UP 1946). Banning was assistant vice-president for public relations at AT&T when he retired in 1944.

⁵⁸For example, Huseyin Leblebici et al., "Institutional Change and the Transformation of Interorganizational Fields: An Organizational History of the U. S. Radio Broadcasting Industry," Administrative Science Quarterly 36.3 (1991): 333-364; Stewart L. Long, "Technological Change and Institutional Response: The Creation of American Broadcasting," Journal of Economic Issues 21 (1987): 743-749.

⁵⁹Erik Barnouw, A History of Broadcasting in the United States, 3 vols. (New York: Oxford UP, 1966-1968).

content of American broadcasting that has been faulted for errors and generalizations resulting from the use of secondary sources and oral history remembrances.⁶⁰ Other, less ambitious, narratives often lack both analysis and documentation, although one of these, George H. Douglas's 1987 The Early Days of Radio Broadcasting, includes a comprehensive 18-page bibliography.⁶¹

Commercial sponsorship of radio programming is the most distinctive institutional feature of American broadcasting. The development of conditions to support this structure were analyzed by John W. Spalding in an article that dated the beginning of radio's era of commercial success to late 1928.⁶²

Technological Histories

Studies of the history of communication technology often adopt a deterministic point of view. Technological determinism sees the development of a technology as driven primarily by scientific or other inherent causes rather than by social or political pressures or assumptions; it is

⁶⁰Rosen 577.

⁶¹George H. Douglas, The Early Days of Radio Broadcasting (Jefferson: McFarland, 1987).

⁶²John W. Spalding, "1928: Radio Becomes a Mass Advertising Medium," Journal of Broadcasting 8.1 (1963-64) 31-44.

assumed that the technology in turn causes social change.⁶³ Mass communication research in general more often examines the impact of the mass media on society than the impact of society on the mass media.⁶⁴

In 1990, Thomas W. Volek examined the development of radio broadcasting through a study of radio advertising in popular magazines during the 1920s and 1930s.⁶⁵ Volek's method was to examine receiver technology exclusively through printed advertising; his only sources were advertisements (not editorial material) in popular, general-interest and women's magazines. In the 1920s as now, however, advertisements both simplified and exaggerated the manufacturer's product. For example, advertising copy for RCA's 1926 Radiola 20⁶⁶ does not reflect the complexity of

⁶³Raymond Williams, Television: Technology and Cultural Form (New York: Schocken, 1975) 13. For example, the abstract of a Journal of Broadcasting article referred to the home radio receiver as "the instrument that created the broadcasting industry." Leslie J. Page, Jr., "The Nature of the Broadcast Receiver and its Market in the United States from 1922 to 1927," Journal of Broadcasting 4 (1959): 174.

⁶⁴Garth S. Jowett, "Toward a History of Communication," Journalism History 2.2 (1975): 36. For a discussion of the direction of causation between social change and technological change, see George H. Daniels, "Technological Change and Social Change," Technology and Change, ed. John G. Burke and Marshall C. Eakin, (San Francisco: Boyd, 1970) 161-167.

⁶⁵Thomas W. Volek, Examining Radio Receiver technology through Magazine Advertising in the 1920s and 1930s, diss., U of Minnesota, 1990 (Ann Arbor: UMI, 1991) 4.

⁶⁶"New Principles in Radio Developed by RCA,"

installation procedures and the need for additional accessories revealed in the instruction booklet that accompanied the set; for example, the ad does not mention the ten individual batteries or the 100-foot wire aerial required for proper operation.⁶⁷ An analysis of social situations portrayed in magazine ads led Volek to conclude that by 1930 "the thrill and magic of hearing ethereal waves had been replaced by social thrills and the magic of status,"⁶⁸ although information and images in popular advertisements are often more prescriptive than reflective and are more likely merely to illustrate the range of permissible discourse about a product or service than to present an accurate picture of a product or technology and its place in society.⁶⁹ When Volek concluded that "a mass communication technology moves from a technical novelty to social and cultural integration through a process marked by development of its usefulness to and usability by society,"

advertisement, American Magazine Nov. 1925: 91.

⁶⁷Radio Corporation of America, Radiola 20, instruction booklet, No. 86990 Edition C, 1926 (Broadcast Pioneers Library RG79 #537) 5.

⁶⁸Volek 174.

⁶⁹Andrew Feldman, Selling the "Electrical Dream" in the 1920s: A Case Study in the Manipulation of Consciousness (Paper presented to the Association for Education in Journalism and Mass Communication, Portland, OR, 1988) 8 (ERIC ED 298 576).

he implied a change in technical specifications rather than a change in public use. A deterministic presentmindedness colors such statements as "ultimately, social and cultural integration are achieved by the technology's ability to become invisible in the user's consciousness;"⁷⁰ in fact, a technology often becomes transparent because it has achieved social and cultural integration, in spite of what later generations might consider a technology of intrusive complexity.⁷¹

Cultural Histories

James Carey has called cultural history "the study of consciousness in the past."⁷² Cultural historians emphasize the need to examine a phenomenon in its social context or zeitgeist in order to fully understand the experiences of the past.⁷³

Susan Douglas's 1979 dissertation, which became the 1987 book Inventing American Broadcasting 1888-1922, is a

⁷⁰Volek 241

⁷¹A short history of the radio receiver from 1922 to 1927 by Leslie J. Page, Jr. points to the latter year as the "beginning of the broadcasting era." The receiver itself is the "indispensable utility" in that study. Leslie J. Page, Jr., "The Nature of the Broadcast Receiver and its Market in the United States from 1922 to 1927," Journal of Broadcasting 4 (1959): 174-182.

⁷²Carey, "The Problem" 4.

⁷³Startt and Sloan 44.

social history that began with questions not unlike those raised in this study: How did technology and culture interact to produce broadcasting? How did the American press greet the invention of radio? What were the hopes and possibilities radio broadcasting carried?⁷⁴ However, Douglas chose as her focus the earliest years of wireless technology, not only of radiotelephony but of wireless telegraphy, and thus her research ends as the transition to broadcasting begins. When Douglas says that "technically, economically, legislatively, and ideologically, the elements of America's broadcasting system were, thus, in place by 1922,"⁷⁵ she does not take into account the ways in which the American public integrated radio broadcasting into its daily life. One of the most important "elements" of a system is the way it is used and the place it comes to assume in society. In 1922 these uses and this place were still largely unforeseen.

In a 1982 conference paper and a later book chapter, Catherine Covert concluded that the public felt a sense of loss resembling bereavement as it struggled to come to terms

⁷⁴Susan Jeanne Douglas, Exploring Pathways in the Ether, diss., Brown U, 1979 (Ann Arbor: UMI, 1979) 1; Susan J. Douglas, Inventing American Broadcasting 1888-1922 (Baltimore: Johns Hopkins UP, 1987).

⁷⁵Douglas, Inventing 317.

with the new technology of radio during the early 1920s.⁷⁶ In analyzing the "organizing ideas and images" of the earliest broadcasting rhetoric, Covert found a tendency to couch discussion in spiritual or religious terms (even remarking on the dual meaning of the word "medium")⁷⁷. However, Covert's interpretation rests entirely on an elite discussion: her sources were analyses and commentaries by intellectuals, academics, and essayists that appeared in the elite popular press (for example New Republic, Scientific American, and the New York Times). Covert presented little evidence that members of the American public were moved to analyze or intellectualize the remarkable new service as were these writers (by either inclination or profession), or that before 1924 radio broadcasting caused individuals to pass through a series of emotional stages similar to the five-stage grief process (denial and isolation, anger, bargaining, depression, acceptance) or that the term "wireless" implied a "loss" of wires⁷⁸ rather than the more

⁷⁶Catherine L. Covert, "'Loss and Change': Radio and the Shock to Sensibility in American life, 1919-1924," (Paper presented to the Association for Education in Journalism, Athens, OH, 1982; ERIC ED 217 447) 4; Catherine L. Covert, "We May Hear Too Much: American Sensibility and the Response to Radio, 1919-1924," Mass Media Between the Wars: Perceptions of Cultural Tension, 1918-1941, ed. Catherine L. Covert and John D. Stevens (Syracuse: Syracuse UP, 1984).

⁷⁷Covert, "Loss and Change" 8.

⁷⁸Covert, "Loss and Change" 34; "We May Hear" 219.

positive removal of a restraint or the simplification of an earlier technology. Her contention that a sense of loss was inevitable "as Americans . . . gave up their complete dependence on newspapers and wireless"⁷⁹ does not take into account that several years would pass before broadcast programming duplicated the services offered by the daily newspaper, and that what she called "wireless" was merely a commercial message technology with little bearing on the average American's life. Covert's title echoes the subtitle of Clayton R. Koppes "The Social Destiny of the Radio: Hope and Disillusionment in the 1920s."⁸⁰ Koppes's article, however, treated only the predictions of writers of the era who tried to forecast radio's impact on American life, and the disillusion he wrote of is on the part of the intellectual elite in general and writers in the mass media in particular. Radio's audience can hardly be called disillusioned during what we have come to call radio's "golden age." Advertising executive Roy Durstine characterized the typical radio listeners of the 1930s as "a tired, bored, middle-aged man and woman whose lives are empty and who have exhausted their sources of outside

⁷⁹Covert, "We May Hear" 212.

⁸⁰Clayton R. Koppes, "The Social Destiny of the Radio," South Atlantic Quarterly 68 (1969): 363-376.

amusement when they have taken a quick look at an evening paper. They are utterly unlike those who are most vocal in their criticism of radio programs. . . ."81

Much of the social historiography of broadcasting has described the published debates over the issues faced by radio during the 1920s, such as commercial support, the need for political censorship, and the dangers of monopoly. These studies include a dissertation by Elaine J. Prostack and articles by Mary Mander and William Boddy.⁸² As in the analyses by Covert and Koppes, the debaters were public figures and intellectuals with access to the print

⁸¹Roy Durstine, "The Future of Radio Advertising in the U. S.," Radio: The Fifth Estate (1935), rptd. in Radio: Selected A.A.P.S.S. [American Academy of Political and Social Science] Surveys, 1929-1941 (New York: Arno, 1971) 151.

⁸²Elaine J. Prostack, Up in the Air: The Debates Over Radio Use During the 1920s, diss., U Kansas, 1983 (Ann Arbor: UMI, 1983); Mary Mander, "The Public Debate About Broadcasting in the Twenties: An Interpretive History," Journal of Broadcasting 28.2 (1984): 167-185; William Boddy, "The Rhetoric and the Economic Roots of the American Broadcasting Industry," Cine-Tracts 2 (1979) 37-54. For an examination of the rhetoric of later debates, and specifically that over the educational use of radio broadcasting, see Robert W. McChesney, The Battle for America's Ears and Minds: The Debate Over the Control and Structure of American Radio Broadcasting, 1930-1935, diss., U Washington, 1989 (Ann Arbor: UMI, 1989) and sections of Robert Edward Davis, Response to Innovation: A Study of Popular Argument About New Mass Media, diss., U of Iowa, 1965 (New York: Arno, 1976) which analyzed arguments used in the public discourse about motion pictures, radio, and television between 1891 and 1955.

communication media. During the 1920s radio's audience in general appears to have reacted with pleased acceptance to the new medium's offerings, much as modern Americans sit contentedly before their TV sets while the debate over the failings, abuses, and excesses of commercial television continues over their heads.

Broadcasting in Other Countries

Broadcast histories of other countries have limited applicability to the examination of America's earliest audiences, because of the individualistic and ad hoc nature of American broadcasting throughout most of the 1920s. In addition to cultural differences among societies, the motivation of broadcasters and government (in many cases the same entity) as well as the availability of equipment often guided the structure of the various national broadcasting systems. British broadcasting began in 1922 with the establishment of eight stations run by the British Broadcasting Company.⁸³ Those who wished to receive the broadcasts were required to obtain a license, and receiving equipment was legally limited to sets bearing a stamp of approval from the Postmaster General; these sources provided the funding of the British Broadcasting Company (later to

⁸³Gordon Bussey, Wireless: The Crucial Decade: History of the British Wireless Industry 1924-34 (London: Peregrinus, 1990) 3.

become the British Broadcasting Corporation).⁸⁴ Australia's broadcast history is also one of directed development: the Australian government officially inaugurated radio broadcasting in September of 1923, at a per-station receiver fee that has been called "prohibitive."⁸⁵ Between August 1923 and June 1924 only 1,400 Australians (out of an estimated population of almost six million) obtained licenses, compared with an estimated three million radio households in the United States (in a population estimated at more than 114 million) by the beginning of 1924.⁸⁶

Other Types of Studies

Two methodologies that have not been used to study the development of the listening audience and the transition of radio's place in the American home are diffusion of innovation and retrospective technology assessment.

⁸⁴The first part of a two-volume series examining British broadcasting historically focuses on the structural development of the service, devoting only a brief final chapter to the listening audience; the second volume is intended to examine British broadcasting's social implications. Paddy Scannell and David Cardiff, A Social History of British Broadcasting: Volume One 1922-1939: Serving the Nation (Oxford: Blackwell, 1991). For a study of early British radio listening, see Shaun Moores, "'The Box on the Dresser': Memories of Early Radio and Everyday Life," Media, Culture and Society 10 (1988): 23-40.

⁸⁵Lesley Johnson, The Unseen Voice: A Cultural Study of Early Australian Radio (London: Routledge, 1988) 12.

⁸⁶"Statistical Survey of the Radio Business," Radio Retailing March 1928: 36-37.

Diffusion of Innovation. Invention is the process by which a new idea is created or developed, while innovation is the process of adapting an existing idea.⁸⁷ Wireless telephony was an invention; broadcasting was an innovation. Diffusion of innovation studies two processes: the pattern of the appearance or use of an innovation within a social system, and the individual's adoption process, a sequence of stages from awareness to acceptance.⁸⁸ Although as early as 1934 Raymond V. Bowers examined the geographical diffusion of participation in amateur radio,⁸⁹ diffusion of innovation techniques have not been used to study the process by which American individuals or families adopted radio listening, nor to study the spread of interest in radio broadcasting as it developed first into a fad and then into a household utility. While Bowers's 1934 study provides some raw material for analyzing the public's interest in radio technology before the advent of broadcast listening, his conclusions reflect his interest in diffusion patterns

⁸⁷Everett M. Rogers, Diffusion of Innovations (New York: Free, 1962) 76.

⁸⁸Thomas S. Robertson, Innovative Behavior and Communication (New York: Holt, 1971) 45; Vijay Mahajan and Yoram Wind, Innovation Diffusion Models of New Product Acceptance (Cambridge: Ballinger, 1986) 4.

⁸⁹Raymond Victor Bowers, "A Genetic Study of Institutional Growth and Cultural Diffusion in Contemporary American Civilization, an Analysis in Terms of Amateur Radio," diss., U of Minnesota, 1934.

rather than in broadcast history, and when the paths of the broadcast listener and the radio amateur diverge, he follows the development of the amateur. In 1936, H. Earl Pemberton published a brief study of the role of cities as centers of diffusion, using the case of radio ownership in the United States. The study analyzed the geographical and cultural patterns by which radio ownership had permeated American society by 1930 but did not examine the individual adoption process.⁹⁰

Although studies have been made of Americans' adoption of television, the advent of radio broadcasting is not analogous because of the distinction between discontinuous innovation (involving a new product and new consumption patterns) and continuous innovation (the alteration of an existing product).⁹¹ Television was an adaptation of the forms, structures, and uses of radio broadcasting.⁹²

Retrospective Technology Assessment. Technology assessment, a concept formalized by the United States

⁹⁰H. Earl Pemberton, "Culture-Diffusion Gradients," American Journal of Sociology 42 (1936): 226-233.

⁹¹Lawrence A. Brown, Innovation Diffusion: A New Perspective (London: Methuen, 1981) 7.

⁹²See, for example, Saxon Graham, "Cultural Compatibility in the Adoption of Television," Social Forces 33 (1954-55): 166-170; Saxon Graham, "Class and Conservatism in the Adoption of Innovations" Human Relations 9 (1956): 91-100.

government in the 1960s, examines the impact on society of the introduction of particular technologies. In 1974 "retrospective technology assessment" was introduced in an attempt to clarify the historical implications of new technologies, to examine expectations for past technologies, and to forecast development.⁹³ Although a retrospective technology assessment of radio broadcasting has not been published, a model may be provided by Ithiel de Sola Pool's 1983 Forecasting the Telephone, which examines predictions in the popular literature of telephone's applications and effects.⁹⁴

Radio Comes of Age

Although no one has examined the process of transition of radio during the 1920s from the viewpoint of the audience and its use of the medium, most researchers do identify, implicitly or explicitly, a point at which radio "grew up." Many different years are defensible based on the orientation of the researcher and the research. Political use of radio by the general public can be said to have begun with the

⁹³ See Joel A. Tarr, ed., Retrospective Technology Assessment--1976 (San Francisco: San Francisco, 1977) for details of the process of RTA.

⁹⁴ Ithiel de Sola Pool, Forecasting the Telephone (Norwood, NJ: Ablex, 1983); See also Ithiel de Sola Pool, ed., The Social Impact of the Telephone (Cambridge: MIT P, 1977).

multi-station broadcasting of the 1924 political nominating conventions.⁹⁵ The creation of the National Broadcasting Company in 1926 forged the permanent links upon which was built the national-network structure of American broadcasting.⁹⁶ Nineteen-twenty-seven was the year of the Radio Act; it was also a year marked by the development of improved, simplified receivers.⁹⁷ Because commercial sponsorship continues to be the basis of American broadcasting, the turning point in radio's development can be seen as 1922, the year of WEAf's initial experiment in toll broadcasting, or 1928, when advances in equipment, programming, audience size and sponsorship allowed the networks to develop a national listenership that could be delivered to advertisers.⁹⁸

Yet whether investigating the impact of society on technology or technology on society, most broadcast histories have examined changes in management, regulation,

⁹⁵Lewis Elton Weeks, Order out of Chaos: The Formative Years of American Broadcasting, 1920-1927, diss., Michigan State U, 1962 (Ann Arbor: UMI, 1963) 155.

⁹⁶Elaine J. Prostak, Up in the Air: The Debates Over Radio Use During the 1920s, diss., U Kansas, 1983 (Ann Arbor: UMI, 1983) 26.

⁹⁷Page 181.

⁹⁸John W. Spalding, "1928: Radio Becomes a Mass Advertising Medium," Journal of Broadcasting 8.1 (1963-64): 31.

or structure, rather than changes in broadcasting's function for the audience, or in the audience's perception of broadcasting. Few studies have reflected the actions and feelings of the public as it learned about and learned how to use radio.

Significance

A need exists to study people's use of technological innovations, especially previously unknown products that establish new social patterns and become part of everyday life.⁹⁹ Little has been written about the evolution of the radio audience and its role in broadcasting's development. The aim of this study is to increase the understanding of how, when, and why broadcasting took its place in the American home and in American society. More important, the study demonstrates the role of the public in the development of useful technology, including segments of the public previously viewed as lacking power, such as women in the home.

The technologies of mass communication have continued to develop since the first days of radio broadcasting. Some--such as television--were much-heralded and well

⁹⁹A need for examinations of technological fads and their adoption by and integration into society has been noted by B. E. Aguirre, E. L. Quarantelli, and Jorge L. Mendoza in "The Collective Behavior of Fads: The Characteristics, Effects, and Career of Streaking," American Sociological Review 53.4 (1988): 577.

planned while others, like the videocassette recorder, surprised even their developers with not only their popularity but the variety of their uses. Useful parallels can also be drawn between radio and other technological innovations that have become integrated into the lives of most Americans, from the personal automobile in the early years of the century to the growing use of personal computers as the century ends.¹⁰⁰ As one writer said of the computer's development, "whenever a new technology is born, few see its ultimate place in society."¹⁰¹

¹⁰⁰Although the automobile developed much earlier than radiotelephony, Wilfred Owen identified three periods of automotive history--a formative period before World War I, a growth period from 1919 to mid-1930s, and a period of maturity--that correspond to the timing of the three eras of radio's development. Cited in Francis R. Allen, "The Automobile," Technology and Social Change, ed. Francis R. Allen, et al. (New York: Appleton, 1957) 109. For a discussion of different approaches to the history of the automobile, see James J. Flink, "The Car Culture Revisited," Michigan Quarterly Review 19 (1980): 772-781. The history of the automobile was primarily recounted in terms of inventors and industrial giants until Flink's America Adopts the Automobile and The Car Culture. See James J. Flink, America Adopts the Automobile, 1895-1910 (Cambridge: MIT P, 1970); James J. Flink, The Car Culture (Cambridge: MIT P, 1975). An example of the recent expansion in cultural focus is Virginia Scharff, Taking the Wheel: Women and the Coming of the Motor Age (New York: Free Press, 1991).

¹⁰¹Paul Cerruzzi, "An Unforeseen Revolution: Computers and Expectations, 1935-1985," Imaging Tomorrow: History, Technology and the American Future, ed. Joseph J. Corn (Cambridge: MIT P, 1986) 194. Discussions of the early participants in home computing sound very much like stories of the youngsters who first brought radio into the home; see, for example, Florence Grossman, "Who Are the Computer Kids?" onComputing Fall 1981: 24-25.

In 1946 Donald McNicol, of the Institute of Radio Engineers, whimsically suggested that radio producers might replace the announcers' tedious biographies of long-dead composers with a "biography" of the technology that made the broadcast possible.¹⁰² This study describes the process by which the technology of the wireless transmission of sound became the mass medium of broadcasting. Neil Postman, in Amusing Ourselves to Death, compared the difference between a technology and a medium to the difference between a brain and a mind:

A technology becomes a medium as it employs a particular symbolic code, as it finds its place in a particular social setting, as it insinuates itself into economic and political contexts. A technology, in other words, is merely a machine. A medium is the social and intellectual environment a machine creates.¹⁰³

¹⁰²Donald McNicol, Radio's Conquest of Space (1946; New York: Arno, 1974) 329.

¹⁰³Neil Postman, Amusing Ourselves to Death (New York: Penguin, 1985) 84.

CHAPTER 2 THE RADIO HOBBY

A few months ago the general public knew of radio, or rather "wireless," as it knew of dirigible airships--something very modern and interesting, but of no direct relation to ordinary life.

Current History, April 1922¹

The remarkable advances in transportation technology of the nineteenth century were overshadowed by astonishing new methods of communication that developed with the approach of the twentieth.² During the first two decades of the new century the press frequently publicized the technological marvels that were becoming increasingly important tools in its own profession: Morse's telegraph, Bell's telephone, and the newest wonder, Marconi's wireless.³

¹William H. Easton, "Wonders of the Radio Telephone," Current History 16 (1922): 27.

²The revolution in transportation began in the 1830s with the coal-burning steamboat and the development of inland navigation, which was followed by the coming of the railroads in the 1840s and 1850s, as well as the electric trolley-car and the emergence of the automobile at the turn of the century. The advent of powered human flight in the first decade of the new century provides an apt connection with the simultaneous beginning of instantaneous communication through that same air. See Edward Hungerford, "Transportation and Communication," A Century of Progress, ed. Charles A. Beard (1932; Freeport: Books for Libraries, 1970) 86-121.

³For a view of electricity as the bridge between the

Wire Telephony

"This is the age of telephones," the journal Telephony declared in 1905 of that "most useful and . . . most abused feature of the household machinery." Patients expected medical advice by phone, customers pestered their bankers for football scores and political developments, stores were asked to describe merchandise over the wire. "Bless the telephone; it is the wonder of the age," the article concluded; "it is making a careless, lazy, discourteous, but comfortable and happy, civilization."⁴ Twenty-eight years earlier, when the telephone was first patented, a newspaper cartoonist predicted "The Terrors of the Telephone--The Orator of the Future": wires from a telephone instrument spread out to all the cities of the world, as a frenetic orator harangues the multitudes from Dublin to the Fiji Islands.⁵ In fact, before the turn of the century this

transportation era and the communication era, see Carolyn Marvin, The Electrical Imagination: Predicting the Future of Communications in Britain and the United States in the Late Nineteenth Century, diss., U Illinois Urbana-Champaign, 1979 (Ann Arbor: UMI, 1980).

⁴"Telephoning is the National Craze," Telephony December 1905: 412.

⁵"Terrors of the Telephone--The Orator of the Future," cartoon, New York Daily Graphic 15 March 1877: 1. Apparently, public feeling about this scientific marvel was ambivalent. Two weeks earlier the same newspaper had editorialized about the "Triumphs of the Telephone," (28 February 1877: 818) and four weeks later the "Wonders of the Telephone" (31 March 1877: 215).

fanciful broadcasting prophecy had been fulfilled on a local scale, and by 1900 6,200 subscribers were receiving a 12-hour-daily service of "music, telegraphic news 'hot' from the wires, literary criticism, stock quotations" and other features as announced in a printed program from Budapest, Hungary's "Telephone Newspaper."⁶ In the spring of 1912, a group of New York businessmen visited Budapest, and returned to organize the New Jersey Telephone Herald Company. By July of that year, subscribers were being offered fashion talks, sports talks, bedtime stories, dance music, and news reports, as well as stock quotations every fifteen minutes, for a fee of \$1.50 per month. Although 5,000 households subscribed in the initial months, interest waned by the end of the first year and organizers disbanded the company, a failure later blamed on poor technical quality.⁷

Wireless Telegraphy and Telephony before WWI

Marconi's 1901 transmission of the telegraphic code for the single letter S across the Atlantic fired the

⁶Thomas S. Denison, "The Telephone Newspaper," The World's Work 1 (1900-1901): 640-641. For a detailed history of "Telefon Hirmondo" see David L. Woods, "Semantics versus the 'First' Broadcasting Station," Journal of Broadcasting 11 (1967): 199-207.

⁷G. C. B. Rowe, "Broadcasting in 1912," Radio News 6 (1925): 2309. For a discussion of the telephone as an entertainment medium see Asa Briggs, "The Pleasure Telephone," Social Impact of the Telephone, ed. Ithiel de Sola Pool (Cambridge: MIT P, 1977) 40-65.

imagination of scientists and philosophers around the world. The public was apprised at regular intervals of the latest advances in wireless technology during the early years of the century; the word "wonder" appeared frequently in titles and stories.⁸

Wireless was news during the pre-war years, even though it did not touch people's daily lives directly as it would after the advent of broadcasting. A researcher in the 1930s counted the number of wireless articles in non-technical magazines indexed by Reader's Guide to Periodical Literature between 1900 and 1914, and found the following:⁹

1900-1	1904-8	1908-8	1912-12
1901-3	1905-5	1909-14	1913-12
1902-13	1906-6	1910-8	1914-19
1903-19	1907-15	1911-12	

Between 1900 and 1918, the Reader's Guide listed under "wireless" at least eleven pieces of fiction and four poems, including Rudyard Kipling's 1902 story "Wireless."¹⁰

⁸ For example Eugene P. Lyle, Jr., "The Advance of Wireless" World's Work 9 (1905): 5845-8; and Arthur W. Page, "Communication by Wire and Wireless: The Wonders of the Telegraph and Telephone" World's Work 13 (1907): 8408-8422.

⁹ Raymond Victor Bowers, A Genetic Study of Institutional Growth and Cultural Diffusion in Contemporary American Civilization, an Analysis in Terms of Amateur Radio, diss., U of Minnesota, 1934, 23.

¹⁰ Rudyard Kipling, "Wireless," Scribner's Aug. 1902: 129-143.

Professional Radiotelegraphy

Wireless telegraphy was a boon to newspapers compiling reports of the world's news, and papers were quick to boast of their use of the new technology. By 1909 the New York Times featured foreign news under a decorative banner announcing "The Marconi Transatlantic Wireless Dispatches."¹¹ "The Times's Daily Wireless and Cable Dispatches" might also include announcements of the new wireless stations built by the Marconi Company.¹²

Both the romance and the respect accorded wireless communications grew when the use of radio technology on ships at sea was credited with saving lives. On January 24, 1909, the British liner Republic collided with the S. S. Florida off Nantucket; through the many pages of newspaper coverage, wireless telegraphy emerged as the hero.¹³ Praising the role of wireless in the rescue of all on board who had not died in the initial collision, a Times editorial proclaimed that "C Q D," the standard distress call at that time, had now "come into the public knowledge and will be fixed indelibly in the memory."¹⁴ The collision also made a

¹¹"Marconi Transatlantic Wireless Dispatches," New York Times 24 Jan. 1909, part 3: 1.

¹²"Viewing Wireless Stations," New York Times 29 March 1912: 6.

¹³"Liner Republic Rammed at Sea," New York Times 24 Jan. 1909: 1; "How Wireless Saved a Ship," New York Times 24 Jan. 1909: 1.

hero of the Republic's wireless operator Jack Binns,¹⁵ who was mobbed by admirers whenever he appeared in public, and was often asked to make impromptu speeches. When he was discovered in the audience at a New York stage show, a group of chorus girls was said to have pursued him out of the theater and up New York's Sixth Avenue, blowing kisses.¹⁶

Three years later America's most notorious shipwreck, the sinking of the luxury liner Titanic on its maiden voyage, focused public attention once again on the safety value of shipboard radio.¹⁷ Although wireless could not prevent the loss of life caused by inadequate safety equipment, radio messages did allow ships in the area to pick up survivors and to relay information to shore.¹⁸

¹⁴"C Q D," editorial, New York Times 25 Jan. 1909: 8.

¹⁵"How Binns Flashed His Calls For Help," New York Times 26 Jan. 1909: 4.

¹⁶"Binns, Wireless, Kissed by Chorus," New York Times 29 January 1909: 2.

¹⁷"Scientific Aftermath of the 'Titanic'," Literary Digest 44 (1912): 1097.

¹⁸The radio hero of this particular shipwreck would eventually be David Sarnoff, who over subsequent years developed the myth that he had been the Marconi operator who received first word of the wreck and subsequent rescue attempts, remaining at his key for 72 hours as reports of survivors came in. The truth is apparently that Sarnoff was at that time assigned to duty at a Marconi installation in New York's Wanamaker department store, and the morning following news of the Titanic's sinking participated in a promotion sponsored by the New York American, in which the Wanamaker station intercepted and relayed to reporters messages of rescue information and survivor lists. Sarnoff

"A New Style of Adventures," Walter S. Hiatt called wireless in a 1913 Collier's article about the exploits of ships' operators: "A veritable host of new stories have entered the world with these pounders of the brass."¹⁹ Later that month, under the heading "The World's New Marvels," Collier's looked toward the future of the wireless telephone. Describing the recent development of a small portable radio outfit, the writer concluded that some day "it may be that no farm or fireside will be without one."²⁰ However, some technicians and scientists may have resented the aura of mystery and romance fostered by such phrases as "a million wireless ears."²¹ A March 1916 column of "Plain

was not even the lone operator manning the Wanamaker post during the exercise: one of his co-workers was the original wireless hero himself, Jack Binns. For a discussion of the Sarnoff "Titanic myth," see Kenneth Bilby, The General (New York: Harper, 1986) 30-35. It is possible that Sarnoff concocted the myth because he had been unable to share in the general adulation that followed the Republic collision in 1909; although records show that Sarnoff was assigned to Marconi's Siasconset installation at the time of the collision, it was his fellow Siasconset operator A. H. Ginman who received the publicity. See "Marconi Man's Own Story," New York Times 24 Jan. 1909: 2; "First News of Republic Loss," New York Times 25 Jan. 1909: 1.

¹⁹Walter S. Hiatt, "A New Style of Adventures," Collier's 18 Oct. 1913: 25.

²⁰Carl Snyder, "The World's New Marvels," Collier's 25 Oct. 1913: 22.

²¹Snyder, 22.

Talk on Scientific Achievement" pointed out that although newspapers usually referred to "transmitting sound," in reality radiotelephony was merely a wave of electromagnetic force disturbing the ether, rather than "a voice 'through the air.'"²²

Amateur Radio Operators²³

Meanwhile, experimenting with radiotelegraphy and radiotelephony had become a popular scientific pastime. In the wake of publicity about Jack Binns and the role of wireless in the Republic disaster, interest in radio experimentation grew, as did the amount of press coverage accorded the experimenters. Many young people learned about radio in high school physics classes; after graduation some entered the field as professional radio operators and many more joined the growing group of radio amateurs.²⁴ This "most popular scientific fad" had been embraced by an estimated four thousand young Americans, to the occasional dismay of professional and Navy operators who often had to

²²C. H. Claudy, "A Voice Through the Air," McBride's March 1916: 159.

²³For a social history of amateur radio, see Susan J. Douglas, "Amateur Operators and American Broadcasting: Shaping the Future of Radio," Imagining Tomorrow, ed. Joseph J. Corn (Cambridge: MIT P, 1986) 35-57.

²⁴"Boys Forge Ahead in Wireless Work," New York Times 31 Jan. 1909, sec. 1: 18.

contend with careless or malicious interference from loquacious or mischievous amateurs.²⁵

In 1912, Hugo Gernsback, editor of Modern Electrics magazine and an officer of the Wireless Association of America, wrote a letter to the New York Times promoting the benefits of amateur radio to society (improvement of equipment, relaying distress calls) and to the amateur himself (keeping him at home, away from other diversions that might lead to "questionable resorts"). Gernsback estimated the pastime had 400,000 participants.²⁶ In June 1916, the third-prize in American Magazine's "My Hobby and Why I Enjoy It" contest went to a twenty-two-year-old radio operator who left his job to return to college but spent his spare time on amateur radio, a pastime he claimed to share with 75,000 other American youths. "I hear the dots and dashes calling me," he wrote. "I can't shake the bug."²⁷

Early experimenters and amateur operators were concerned with building and perfecting equipment to transmit and receive radio waves, and conversing in code with other radio enthusiasts pursuing the same goals. After 1912 a

²⁵Robert A. Morton, "The Amateur Wireless Operator," Outlook 15 Jan. 1910: 131.

²⁶Hugo Gernsback, "400,000 Wireless Amateurs," New York Times 29 March 1912: 12.

²⁷"75,000 American Boys Have This Enthusiasm," American Magazine June 1916: 104.

government test and license were required for transmission, and a body of hobbyist listeners without transmitting equipment began to grow. The hobbyists would listen in on commercial and amateur communication both in code and by voice, a "super eavesdropping" that was considered one of radio's greatest attractions.²⁸

Experiments in Wireless Broadcasting²⁹

Although the ability to transmit human speech without wires was developed gradually over the years before 1920, broadcasting has been called the "surprise party" of wireless technology.³⁰ The goal of experimentation in wireless communication during the first two decades of the twentieth century was still the improvement of point-to-point communication; it was assumed wireless would take its place as an adjunct to wired telegraphy and, eventually, wired telephony, crossing distances too vast or populations too sparse to be served by wires and cable. The concept of

²⁸Austin C. Lescarbourea, "Amateurs in Name Only," Scientific American 120 (1919): 688.

²⁹For a chronological discussion of the development of broadcasting technology see Robert H. Marriott, "United States Radio Broadcasting Development," Proceedings of the Institute of Radio Engineers 17 (1929): 1395-1439; and Elliot N. Sivowitch, "A Technological Survey of Broadcasting's Prehistory, 1876-1920," Journal of Broadcasting 15.1 (1970-71): 1-20.

³⁰J. G. Harbord, "The Commercial Uses of Radio," Radio, ed. Irwin Stewart (1929) rptd. in Radio: Selected A.A.P.S.S. Surveys, 1929-1941 (New York: Arno, 1971) 57.

"broadcasting," or sending out a message from a single point to a wide audience (with its implication of one-way communication) was not the goal of even the first voice "broadcasters."³¹ A signal would be sent out in order to test transmitting equipment: response from all those who heard, or "copied," the signal would enable the experimenter to learn more about the transmission of radio waves in general, and the performance of that equipment in particular.

In 1906 Reginald A. Fessenden invited a group of scientists to witness his test of wireless telephony between Brant Rock and Plymouth, Massachusetts, a distance of just over ten miles.³² Three days before Christmas Fessenden also notified nearby ships equipped with Fessenden apparatus

³¹The word "broadcast," meaning in agriculture to scatter seed widely, had been used figuratively for many years, though most often as an adverb or an adjective. For example, in the 1898 story "The Blue Hotel," Stephen Crane wrote that one man's gentle and respectful manner "appeared to be a continual broadcast compliment." Stephen Crane, "The Blue Hotel," Collier's Weekly 26 Nov. 1898: 16. The use of "broadcast" as a verb became common only in 1922, according to "Astonishing Growth of the Radiotelephone," Literary Digest 15 April 1922: 28. However, the Pittsburgh Sun and Pittsburgh Post used the word to describe KDKA's election coverage in November, 1920. "Wireless Phone Proves Success Election Night," Pittsburgh Sun 4 Nov. 1920: 4; "Wireless Success in Broadcasting Returns one of Election Features," Pittsburgh Post 5 Nov. 1920.

³²R[eginald] A[ubrey] Fessenden, "Wireless Telephony," Proceedings of the American Institute of Electrical Engineers 27 (1908): 1309.

that he would make a speech transmission on Christmas Eve.

That early "broadcast" included, Fessenden later wrote,

a short speech by me saying what we were going to do, then some phonograph music . . . being Handel's Largo. Then came a violin solo by me, being a composition of Gounod called "O, Holy Night," . . . of which I sang one verse, in addition to playing on the violin, though the singing of course was not very good. Then came the Bible text, "Glory to God in the highest and on earth peace to men of good will," and finally we wound up by wishing them a Merry Christmas and then saying that we proposed to broadcast again New Year's Eve.³³

There seems to have been little publicity for what would later be referred to in textbooks as the first radio broadcast, although Fessenden did write a brief article for Scientific American that referred to tests run four days earlier in the presence of other wireless experts and the technical press, during which he transmitted speech, music, and "phonograph talking records."³⁴ Later that year Review of Reviews presented an explanation of the differences between wire and wireless communication, and between telegraphy and telephony, describing the "De Forest system" of radiotelephony by which amateurs in the New York area had received music from the de Forest station. De Forest

³³Helen M. Fessenden, Fessenden: Builder of Tomorrows (New York: Coward, 1940) 153.

³⁴Reginald A. Fessenden, "Recent Progress in Wireless Telephony," Scientific American 19 Jan. 1907: 68.

suggested that

radio-telephony has also a field in the distribution of music from a central station, such as an opera house. By installing a wireless telephone transmission station on the roof, the music of singers and orchestra could be supplied to all subscribers who would have aerial wires on or near their homes.³⁵

On the first day of 1909, Charles David "Doc" Herrold began regular transmissions of voice and music to the San Jose, California, area from the Herrold College of Engineering and Wireless.³⁶ In the same year, three weeks after the Republic and the Florida collided, a front-page article in the New York Times touted Lee de Forest's latest radio telephone system.³⁷ In early 1910 de Forest attempted to transmit grand opera to the public, working with the National Dictograph Company, which was installing stage microphones at New York's Metropolitan Opera House. Newspaper reporters who participated in the demonstration wrote they had difficulty hearing the voices at all clearly, one noting that most of the "homeless song waves were kept from finding themselves" by interference from a nearby transmitter.³⁸

³⁵Herbert T. Wade, "Wireless Telephony by the De Forest System," Review of Reviews 35 (1907): 685.

³⁶See Gordon B. Greb, "The Golden Anniversary of Broadcasting," Journal of Broadcasting 3 (1958-59): 3-13.

³⁷De Forest Tells of a New Wireless," New York Times 14 Feb. 1909:1.

³⁸"Wireless Melody Jarred," New York Times 14 Jan. 1910: 2.

In the fall of 1916, de Forest broadcast presidential election returns, interspersed with phonograph music and vocal selections, an "election-night innovation" described in the next morning's New York Times.³⁹ And it was in 1916 that David Sarnoff, twenty-five-year-old contract manager at American Marconi, wrote a memo to higher management, suggesting a "Radio Music Box."⁴⁰

³⁹"Returns by Wireless," New York Times 8 Nov. 1916: 6

⁴⁰The year of Sarnoff's "Radio Music Box" memo is alternately given as 1915 and 1916. In his 1936 History of Radio, Gleason Archer dated the memo from 1916, and wrote that he had personally examined a reply from General Manager Edward J. Nally, dated November 9, 1916 (Gleason L. Archer, History of Radio to 1926 (New York: American Historical Society P, 1938) 112). However, after the memo's publication with the date September 30, 1915 in the 1968 book Looking Ahead: The Papers of David Sarnoff (New York: McGraw, 1968), the year 1915 began to appear in both scholarly articles and popular books. Sarnoff's earliest printed use of the 1915 date may be an article he wrote for the New York Herald Sunday Magazine, May 14, 1922 (David Sarnoff, "Radio of Today and Tomorrow" New York Herald 14 May 1922, sec. 7: 2). Robert Sobel and Carl Dreher have speculated that de Forest's development of further uses for his audion tube may have been the cause of Sarnoff's backdating. Robert Sobel, RCA (New York: Stein, 1986) 42. In fact, in 1916 the Marconi and De Forest companies met in court over patent claims and counterclaims centering around the audion ("Audion Situation," QST March 1917: 16-17). In addition, as Dreher has pointed out, in 1916 de Forest was already broadcasting from his Highbridge, New York, station. Carl Dreher, Sarnoff: An American Success (New York: Quadrangle, 1977) 41. Recent research has suggested the details usually cited from the "Music Box Memo" actually come from a memo Sarnoff wrote in 1920. See Louise M. Benjamin, "In Search of the Sarnoff 'Radio Music Box' Memo," Journal of Broadcasting and Electronic Media 37 (1993): 325-335.

I have in mind a plan of development which would make radio a "household utility" in the same sense as the piano or phonograph. The idea is to bring music into the house by wireless. . . . The receiver can be designed in the form of a simple "Radio Music Box" and arranged for several different wavelengths, which should be changeable with the throwing of a single switch or pressing of a single button. . . .

The same principle can be extended to numerous other fields--as, for example, receiving lectures at home which can be made perfectly audible; also, events of national importance can be simultaneously announced and received. Baseball scores can be transmitted in the air by the use of one set installed at the Polo Grounds.⁴¹

American Marconi took no action on Sarnoff's memo. By 1917, however, Lee de Forest was offering a series of concerts and "wireless newspaper" editions weekday evenings at 8 o'clock.⁴² Response came immediately from nearby radio amateurs, both by return radio transmissions and by mail.⁴³

Wireless at War

Amateur radio operators sitting at an estimated 175,000 to 200,000 amateur wireless telegraphy and telephony stations, especially those along the coastline, served a useful monitoring function for the government during the earliest years of the world war. When America entered the

⁴¹Gleason L. Archer, History of Radio to 1926 (New York: American Historical Society Press, 1938) 112.

⁴²"Concert by Wireless," QST January 1917: 26.

⁴³"DeForest [sic] Wireless Telephone," QST 17 April: 72-73.

war, 20,000 amateurs quickly put their skills to work in the military effort.⁴⁴ Although in April of 1917 the U. S. government ordered all transmitters and receivers operated by radio experimenters dismantled,⁴⁵ technological advances made in wireless telegraphy and telephony during the war by commercial experimentation and the pooling of patents resulted in the development of simpler, less expensive transmitting and receiving equipment.

Post-War Experimentation

A Saturday Evening Post "Everybody's Business" column in February of 1920 titled "New Day in Communication" described recent advances in wireless technology,⁴⁶ and newspaper articles continued to feature the latest feats in voice transmission, often involving entertainment sent to ships at sea. Navy men were serenaded by opera singers,⁴⁷ and high society took advantage of the novelty of radio music to raise money for charity.⁴⁸

⁴⁴F. A. Collins, "Boys and the Wireless," Woman's Home Companion April 1920: 44.

⁴⁵3,741 amateur transmitting stations were closed in April 1917 according to the United States Department of Commerce, Report of the Secretary of Commerce and Reports of Bureaus, (Washington: GPO, 1920): 983.

⁴⁶Floyd W. Parsons, "New Day in Communication," Saturday Evening Post 7 Feb. 1920: 30.

⁴⁷"Girl Entertains the Pacific Fleet with a Wireless Concert," Pittsburgh Sun 29 Oct. 1920: 1; "Tetrazzini by Wireless Telephone Will Sing to Sailors on Navy Warships," New York Times 3 Dec. 1920: 17.

⁴⁸"To Hear Symphony Concert at Sea," New York Times 27

Restrictions on amateur radio receiving equipment were lifted in April of 1919, and although transmitters remained sealed, the radio enthusiasts returned gratefully to their listening posts. One writer estimated the number of American amateurs at "several hundred thousand."⁴⁹ Both the long-time amateurs who had waited out the wartime silence and a new group made up of men trained for radio work in the service were eager to reclaim the ether:

There is a sense of restless expectancy not unlike that which comes upon one waiting for the curtain to rise for the decisive act of a play; for the fact is that much has been done in wireless telegraphy and telephony during the past two years, and there are many new and strange signals, also new apparatus, ready to greet the amateur.⁵⁰

Restrictions on amateur radio transmission were lifted in October of 1919.⁵¹ Although many amateurs returned to telegraphy and its communication in code, others began to work exclusively with radiotelephony. Many experimenters rested their voices while they tested their transmitting equipment by playing phonograph records between

June 1920, sec. 6: 3.

⁴⁹Austin C. Lescarbourea, "Amateurs in Name Only," Scientific American 120 (1919) 688.

⁵⁰"Revival of Amateur Wireless," Illustrated World Sept. 1919: 104.

⁵¹"Radio Restrictions Removed," Wireless Age Oct. 1919: 21.

announcements of their station call signs and requests for feedback on the quality of their signals. These "radiophone concerts" became popular with the growing body of listener-hobbyists.

The "Birth of Broadcasting"

In the Pittsburgh area, Westinghouse engineer Frank Conrad's experimental station 8XK had remained operational during the war, to aid in the development of wireless equipment for the military. Conrad continued testing his transmitting equipment following the war, changing from coded telegraphy to voice transmission and finally to music from phonograph records.⁵² In late September of 1920, the Joseph Horne department store, whose full-page advertisements in the Pittsburgh Sun took the form of a mock newspaper page, ran a "column" under the headline "Air Concert 'Picked Up' By Radio Here":

Victrola music, played into the air over a wireless telephone, was "picked up" by listeners on the wireless receiving station which was recently installed here for patrons interested in wireless experiments. The concert was heard Thursday night about 10 o'clock, and continued 20 minutes. Two orchestra numbers, a soprano solo--which rang particularly high and clear through the air--and a juvenile "talking piece" constituted the program.

The music was from a Victrola pulled up close to the transmitter of a wireless telephone in the

⁵²S. M. Kintner, "Pittsburgh's Contributions to Radio," Proceedings of the Institute of Radio Engineers 20 (1932): 1857.

home of Frank Conrad, Penn and Peebles avenues, Wilkinsburg. Mr. Conrad is a wireless enthusiast and "puts on" the wireless concerts periodically for the entertainment of the many people in this district who have wireless sets.

Amateur Wireless Sets, made by the maker of the Set which is in operation in our store, are on sale here \$10.00 and up.

--West Basement.⁵³

To Westinghouse Vice-President H. P. Davis the ad suggested that a permanent broadcasting service would provide a growing market for the sale of Westinghouse wireless receiving equipment, and the next day he proposed the company procure a license for its own transmitting facility.⁵⁴

KDKA

In 1931, Frederick Lewis Allen called November 2, 1920 "a date schoolchildren may some day have to learn."⁵⁵ However, little printed publicity was given what is usually acknowledged as the first commercial broadcasting venture--the transmission in Pittsburgh of the Harding-Cox election

⁵³"Horne Daily News," advertisement, Pittsburgh Post 29 Sept. 1920: 7. The previous week's ad had announced the installation of a radio receiving set in a section of the basement between the Toy Department and the Sporting Goods Section, "for the accommodation of our patrons;" amateur sets were on sale starting at ten dollars. "Wireless Receiving Station Installed at Horne's," advertisement, Pittsburgh Sun 23 Sept. 1920: 9.

⁵⁴Kintner 1857.

⁵⁵Frederick Lewis Allen, Only Yesterday: An Informal History of the Nineteen Twenties (New York: Harper, 1931) 77.

returns from Westinghouse's newly-licensed radio station KDKA on November 2, 1920.⁵⁶

The morning after the election, the Pittsburgh Sun described the use of amateur wireless operators to receive returns from various areas and pass them along to a "central receiving station" in the Public Safety building, but made no mention of KDKA or the broadcasting of gathered election returns to the public.⁵⁷ Later that week the Sun did run a story headed "Wireless Phone Proves Success Election Night--Westinghouse Concerns Distribute Returns From East Pittsburgh Plant--Predict Great Future."

One of the interesting sidelights of the election this year was the great success of the wireless telephone broadcasting of the returns. So convincing were the results obtained, it is predicted that four years hence the radio method of sending news of the election will be almost universally used. . . . By means of apparatus installed in clubs throughout the city, large assemblages were able to have social functions while receiving the returns. At the Edgewood Club a sounding horn was in use, and persons all over

⁵⁶"How Westinghouse Announced Harding's Election," Westinghouse Electric News 15 Nov. 1920: 2. For information on Westinghouse's radio work and the development of KDKA, see S. M. Kintner, "Pittsburgh's Contributions to Radio," Proceedings of the Institute of Radio Engineers 20 (1920): 1849-1862. For a discussion of newspaper coverage of the introduction of the first television broadcasting technology, see James R. Walker, "Old Media on New Media: National Popular Press Reaction to Mechanical Television," Journal of Popular Culture 25.1 (1991): 21-19.

⁵⁷"Wireless Operators Have Busy Night," Pittsburgh Sun 3 Nov. 1920: 21.

the large ballroom could hear the voice of the speaker at East Pittsburgh through the radio apparatus. In addition to the phonograph music, banjo duet selections were played during the intervals between of [sic] the election returns. The clear tone and loudness of all the music greatly astonished the gatherings.⁵⁸

Newspapers in Chicago, Los Angeles, New York, Washington and Miami did not mention KDKA's transmission, although the Los Angeles Times covered the American Radio Relay League's plans to transmit election returns from various locations around the country.⁵⁹

After the election, KDKA stayed on the air with a regular--if limited--schedule of music and talks. A January 4 editorial in the Pittsburgh Post acknowledged a church service broadcast by KDKA the previous Sunday and the station's "experiments" transmitting phonograph music. The editorial predicted that "in the course of time organizations will be formed to furnish music to wireless patrons," in addition to lectures provided by speakers' bureaus. In the future, subscribers to wireless services "may be able to receive the most varied entertainment, night after night, at small expense."⁶⁰ On January 20, 1921, the

⁵⁸"Wireless Phone Proves Success Election Night," Pittsburgh Sun 4 Nov. 1920: 4. The Sun's sister newspaper, the Pittsburgh Post, ran the same story that Friday: "Wireless Success in Broadcasting Returns one of Election Features," Pittsburgh Post 5 Nov. 1920: 16.

⁵⁹To Flash Election Returns by Radio," Los Angeles Times 1 Nov. 1920: 2.

first promotional article based on information provided by Westinghouse appeared in the Pittsburgh Post, describing the following week's "program" and giving the station's wavelength.⁶¹

The Detroit News

Several months before KDKA's broadcast the Detroit News had also transmitted election returns by wireless, an event that was heavily promoted in its own pages. On August 31, the News broadcast results of the primary election from amateur station 8MK, which operated from the News building. A front-page box headed "RADIO OPERATORS! ATTENTION!" gave specific information on the time, call sign and wavelength of the broadcast to which the public could "listen in tonight and get election returns and hear a concert sent out by the Detroit News Radiophone."

The next day's front page boasted of the experiment's success:

The sending of the election returns by the Detroit News radiophone on Tuesday night was fraught with romance and must go down in the history of man's conquest of the elements as a gigantic step in his progress. In the four hours that the apparatus . . . was hissing and whirring its message into space, few realized that a dream and a prediction

⁶⁰Entertainment by Wireless," Pittsburgh Post 4 Jan 1921: 6.

⁶¹"Program Arranged for Benefit of Radio Operators," Pittsburgh Post 20 Jan. 1921: 5.

had come true. The news of the world was being given forth through this invisible trumpet to the unseen crowds in the unseen marketplace.⁶²

In November the Detroit News made no mention of KDKA's debut, but promoted its own election-night use of the technology in a front-page article the next morning.⁶³ By 1921, the Sunday Detroit News was running a weekly "Radio Department," with technical advice, government bulletins, and news of the local amateur radio organizations. In June of 1921 the column published KDKA's daily schedule, for the benefit of Detroit amateurs.⁶⁴

Further Development During 1921

KDKA continued to present a regular schedule of broadcasts. In Chicago Westinghouse opened station KYW and undertook to broadcast all performances of the Chicago Civic Opera, a stunt that was well publicized in words and

⁶²"Land and Water Hear Returns by Wireless" Detroit News 1 Sept. 1920: 1. The hyperbolic style continued to mark the News coverage of its radio adventures; New Year's morning the paper boasted that "for the first time, as far as known, a human voice singing a New Year's melody of cheer and good fellowship went out across uncounted miles over the invisible, mysterious waves of ether that are the media of the wireless telephone. . . ." "News' Radio Sounds Taps for Old, Reveille for New," Detroit News 1 Jan. 1921: 1. In fact, Aubrey Fessenden apparently "broadcast" musical greetings on New Year's Eve 1906; see Fessenden 153.

⁶³"Screen, Radio Give Returns; Detroit News Adds Facilities of Cinema, Wireless to Power of Presses," Detroit News 3 Nov. 1920: 1.

⁶⁴"Westinghouse Radio Station, KDKA," Detroit News 26 June 1921: 6.

pictures by the Chicago Daily Tribune, although neither the call letters of the station nor the name Westinghouse was mentioned in the stories.⁶⁵

New York Times articles for 1921 indexed under the headings for wireless telegraphy and wireless telephony (a distinction wrongly made in several cases) most often referred to telegraphic facilities such as RCA's giant new transmitting station or records for long-distance point-to-point voice communication. In addition to confusion between the terms telegraphy and telephony, the words radio and wireless were used interchangeably. In late 1921 one author insisted that inconsistency was holding back public understanding of broadcasting.⁶⁶

In the Times the only wireless news from Pittsburgh during 1921, while KDKA continued its regularly scheduled broadcasts, was a small article about the installation of a "wireless telephone" at the Pittsburgh Chamber of Commerce that would enable members to make contact with 300,000 operators within the Pittsburgh area. Members were "invited to make use of the instrument in the transaction of business."⁶⁷

⁶⁵"Catching 'Butterfly' by Radio," Chicago Daily Tribune 17 Nov. 1921: 3; "How the Opera is Carried by Radio," Chicago Sunday Tribune 13 Nov. 1921, sec. 1: 12 .

⁶⁶Yates 246.

⁶⁷"Sets Up Wireless Phone," New York Times 6 Feb. 1921:

Although general circulation magazines did not herald the new information and entertainment service during 1921, Scientific American regularly featured radio articles in both its weekly and monthly editions. The focus remained technical information for and about radio amateurs, but reception of "concerts" was occasionally mentioned.⁶⁸ Popular Science Monthly featured many articles about the radio hobby; however, few treated the reception of broadcast programming, and it was not until October 1921, almost a year after KDKA's debut, that Popular Science's "Home Workshop" section offered instructions for building a ten-dollar wireless set to "receive radio music and vaudeville in your home."⁶⁹

Radio amateurs had their own magazines: Wireless Age, published by American Marconi, and QST, published by the American Radio Relay League. In 1919 Hugo Gernsback, one of the earliest suppliers of parts to wireless hobbyists and publisher of Modern Electrics, launched Radio Amateur News (the name was shortened to Radio News in July 1920).

18.

⁶⁸Among the earliest was "Portaphone--A Wireless Set for Dance Music or the Day's News," Scientific American 122 (1920): 571.

⁶⁹Arthur H. Lynch, "A Wireless Telephone Receiving Set for Ten Dollars," Popular Science Monthly Oct. 1921: 84.

Gernsback encouraged amateurs to interest the general public in the radio art, publishing articles such as "Get Your Friends Interested," "Let the Average Man Know," and "Winning the Public to Radio."⁷⁰

RCA Enters Broadcasting

The Radio Corporation of America was formed in late 1919 to acquire the interests of British-based American Marconi and combine them with radio patents held by General Electric in order to establish America's growing wireless communication business free of foreign ownership and control.⁷¹ David Sarnoff became RCA's General Manager in April 1921.⁷²

The radio event of 1921 was the broadcast of the Dempsey-Carpentier prizefight of July 2. Maj. J. Andrew White, editor of Wireless Age, proposed the idea to David Sarnoff,⁷³ and a powerful GE generator was temporarily

⁷⁰"Get Your Friends Interested," Radio News 2 (1921): 680+; Armstrong Perry, "Let the Average Man Know," Radio News 3 (1921): 386+; Raymond Frances Yates, "Winning the Public to Radio," Radio News 3 (1921): 494+.

⁷¹"New and Powerful Wireless Company," Wireless Age Nov. 1919: 10-12.

⁷²"David Sarnoff Given Important Post by Radio Corporation," Wireless Age June 1921: 10.

⁷³Personal publicity for Sarnoff as a result of the event was sparse, but the New York Times did note that "the phones at the ringside were operated by J. N.[sic] White, David Saranoff [sic] and H. L. Welter." "Wireless Telephone Spreads Fight News Over 120,000 Miles," New York Times 3 July 1921: 6.

installed at a train terminal in Hoboken. The men at ringside described the action by wire to operators at the transmitter site who passed the information along to the eager public, "announcing it in the same manner as an eyewitness would." In many locations throughout the east, volunteer amateurs received the transmission and amplified it for the benefit of audiences in theaters and halls; the price of admission was a charitable contribution to the Committee for a Devastated France and the Navy League.⁷⁴ The New York Times estimated that at least 500,000 people followed the fight by wireless.⁷⁵

That fall, RCA's first broadcasting station, WDY in Roselle Park, New Jersey, went on the air. By February of 1922 WDY operated three nights a week, from 8 to 10 p.m. Because all stations were licensed to broadcast on the same wavelength (360 meters), WDY shared its schedule with Westinghouse's New York-area station WJZ.⁷⁶

⁷⁴Pierre Boucheron, "Reporting the Big Scrap by Radiofone," Radio News 3 (1921): 97.

⁷⁵"Wireless Telephone Spreads Fight News Over 120,000 Miles," New York Times 3 July 1921: 6.

⁷⁶"Broadcasting Station WDY," Wireless Age Feb. 1922: 19.

The BCL Hobby

With the advent of entertainment broadcasting, the ranks of receive-only hobbyists--now called "BCLs" or Broadcast Listeners--steadily grew. Most found the greatest pleasure in trying to receive distant stations, or "DXing", a pursuit that required skill and patience.

In November, 1921, Popular Science Monthly's lead story described "How I Listen In on the World by Radio: Sets Now Bring Amazing Wireless Adventures to Every Home."⁷⁷ The next month, "Home Workshop" plans for building a receiver were accompanied by the following boxed note:

Do you know the joy of receiving radio messages and radio concerts? Long wintry nights are ahead of us. Have you thought of sitting in your warm, comfortable room and bringing the news of the world to your ears? Nothing is more fascinating. You can do it. Only a few dollars and a few simple tools found in every tool chest are needed. Start now.⁷⁸

The Fad Begins

In a December 1921 Radio News editorial, Hugo Gernsback wrote that "during the past six months it has become apparent that we are finally headed in the right direction as far as popularizing radio is concerned"⁷⁹ and

⁷⁷Armstrong Perry, "How I listen In on the World by Radio, Popular Science Monthly Nov. 1921: 84.

⁷⁸"Simple Radio Receiver for Everybody," Popular Science Monthly Dec. 1921: 84.

⁷⁹Hugo Gernsback, "The Radiotrola," Radio News 3 (1921): 479.

in January 1922 declared the birth of popular radio:

It seems that 1921 will go down in radio history as the birth of the radio telephone, as far as its universal adoption, and its cognizance by the public are concerned. An art may be said to have "arrived" when it becomes universally known, and when the public begins to use it one way or another.⁸⁰

By the end of 1921, most people still viewed radio as "an alluring mystery, a black art understood only by highbrow college professors and curious youngsters who have grasped the fundamentals, and who, through infinite patience and care, have assembled a crude radio equipment with which they listen in on the world."⁸¹ And then, in the spring of 1922, "all of a sudden it hit us. The first most of us saw of it . . . was in first-page, first-column headlines from New York . . . proclaiming that the East had gone mad over radio."⁸²

⁸⁰Hugo Gernsback, "Radio 1921-1922," Radio News 3 (1922): 584.

⁸¹Raymond Frances Yates, "Winning the Public to Radio," Radio News 3 (1921): 494.

⁸²Wilbur Hall, "The Pacific Coast is 'On the Air!'," Radio Broadcast 1 (1922): 157.

CHAPTER 3
THE RADIO FAD: 1922

Wonder at the veritable epidemic of interest in the new radio art is pretty sure to be followed whenever radio is being talked about--and it is being talked about wherever people congregate--by the question as to whether this interest will last.

"Is Radio Only a Passing Fad?"
Literary Digest, 3 June 1922

By the middle of April, 1922, at least 2,250,000 American families--subscribers to the Saturday Evening Post--knew that something was "Up in the Air."¹ For those who missed the story, there was Norman Rockwell's cover drawing two weeks later: an elderly couple share headphones, a newspaper on the man's knee open to the listing of "radio concerts."² In June writer and advertising executive Bruce Barton introduced "This Magic Called Radio" to the 1,750,000 homes receiving American Magazine.³

¹Floyd W. Parsons, "Up in the Air," Saturday Evening Post 15 April 1922: 6+. The claim "More than two million and a quarter weekly" appears on page 150 of that issue.

²Norman Rockwell, illustration, Saturday Evening Post 20 May 1922: cover.

³Bruce Barton, "This Magic Called Radio," American Magazine June 1922: 11+. The circulation figure is from the masthead. Other introductory articles include Stanley

Home Entertainments and Amusements

Despite the emergence of motion pictures and the nickelodeon theater in the first years of the twentieth century, Americans showed a growing interest in home amusements and entertainments in the years before World War I.⁴ Many of these amusements involved music. Robert and Helen Lynd, in their anthropological study Middletown, noted the popularity of group singing at gatherings in turn-of-the-century Muncie, Indiana.⁵ The piano and the phonograph had been instrumental in spreading the dance craze of the century's first decade,⁶ and their presence in the home was thought to contribute to a strong family life.⁷ By 1920 there were seven million pianos for a population of 105 million, one for every fifteen Americans, and by 1922 six million phonographs.⁸ In 1919, American industry produced

Frost, "Radio, Our Next Great Step Forward," Collier's 8 April 1922: 3+; Armstrong Perry, "Listening In on the Universe," Woman's Home Companion May 1922: 32.

⁴Lewis Erenberg, Steppin' Out: New York Nightlife and the Transformation of American Culture, 1890-1930 (Westport: Greenwood, 1981) 237.

⁵Robert S. Lynd and Helen Merrell Lynd, Middletown: A Study in American Culture (New York: Harcourt, 1929) 244-5.

⁶"Piano Business Thrives," New York Times 19 Dec. 1915, sec. 2: 18.

⁷President's Research Committee on Social Trends, Recent Social Trends in the United States (New York: McGraw, 1933) 149.

⁸Arthur Loesser, Men, Women and Pianos (New York: Simon, 1954) 611; "Phonograph Sales Show Big Growth," New

more than a hundred million dollars' worth of pianos and organs, and almost one million dollars' worth of phonographs; factories also turned out more than two hundred thousand player pianos that year.⁹ Music continued to be an important part of life during the war years and after.¹⁰ Well into the 1920s sheet music publishers ran lyrical ads in popular magazines, with claims such as "every chap that has ever dreamt of a lovely girl will like this song," and "the mystic East will cast its magic spell over you when you hear 'My Desert Fantasy.'"¹¹ Family magazines featured piano question-and-answer pages, song arrangements, and dance diagrams, much as they soon would offer technical advice and wiring diagrams to the new radio fans.¹²

York Times 22 Jan. 1922, sec 2: 13.

⁹William Howard Shaw, Value of Commodity Output Since 1869 (New York: National Bureau of Economic Research, 1947) 121; Harvey Roehl, Player Piano Treasury, 2d. ed. (Vestal: Vestal, 1973) 51.

¹⁰England tried limiting the sale of musical instruments as a luxury, but soon realized both soldiers and civilians needed the relief music provided. The popularity of musical instruments continued after the war; in 1924 an estimated thirty million Americans played musical instruments. John Howe, "Are You Among the 30,000,000 Who Play Musical Instruments?" American Magazine Nov. 1924: 42.

¹¹"Sing Stasny Songs," advertisement, American Magazine March 1920: 247.

¹²For example "New Social Dance: The Pavlowana," Ladies Home Journal Jan. 1915: 10-12; Josef Hofman, "Piano Questions Answered," Ladies Home Journal March 1916: 50; John M. Williams, "If Your child is Taking Piano Lessons," Ladies Home Journal Sept. 1916: 19.

The Era of Fads and Crazes

America has been called "a nation of faddists," and the 1920s the era of fads.¹³ One 1920s columnist wrote that America "seemed to slumber along . . . for several years with no particularly violent craze for amusements" until the arrival of the Chinese table game mah-jongg in 1922.¹⁴ At the height of the fad sets with genuine ivory tiles might sell for \$250, although less expensive sets were available for \$14.50 to \$75 from the company that claimed to have introduced the game to America,¹⁵ and a one-dollar complete set "in brilliant colors" was offered by mail through an ad in American Magazine.¹⁶ Mah-jongg was replaced in 1924 by the crossword puzzle, a challenging fad embraced by "high-brows, low-brows, and near no-brows."¹⁷ The fads of the 1920s were played out against the background of minor crazes that surfaced and sank more quickly.¹⁸ Several other fads

¹³Peter L. Skolnik, Fads: America's Crazes, Fevers & Fancies (New York: Crowell, 1978) 2.

¹⁴Reginald T. Townsend, This, That, and The Other Thing (Freeport: Books for Libraries, 1929) 79.

¹⁵"Mah Jongg," advertisement, Saturday Evening Post 12 Aug. 1922: 101.

¹⁶"Mah Jong [sic] Set," advertisement, American Magazine April 1924: 196.

¹⁷Alan Harding, "Why We Have Gone Mad Over Cross-Word Puzzles," American Magazine March 1925: 28.

¹⁸Donald A. Laird, "Have You a Fad?" Review of Reviews March 1935: 33. New "crazes" were often featured in the rotogravure section of the Sunday paper; for example, on

of the era, such as bobbed hair and wrist watches, matured into permanent elements of the culture. The greatest of these was radio.¹⁹

The Era of Goods and Gadgets

By 1920, the wartime financial boom had begun to collapse; the gross national product declined and unemployment rose.²⁰ In January of 1921 the publishers of Collier's magazine placed an ad in the New York Times, urging consumer confidence,²¹ and the editor of McClure's magazine used the development of radio technology as a metaphor when he editorialized against business pessimism.²² Recovery began in 1922; production expanded, marking the beginning of a growing market for "consumer durables" and the acceptance of household debt through installment buying.²³ Electrical appliances began to appear throughout

February 27, 1921 the New York Times proclaimed the newest craze to be butterfly "tattoos" made from real insects, applied to women's bare shoulders.

¹⁹Emory S. Bogardus, "Social Psychology of Fads," Journal of Applied Sociology 8 (1924): 241.

²⁰George Soule, Prosperity Decade: From War to Depression: 1917-1929 (1947; New York: Harper, 1968) 96.

²¹"Stage Coach or Automobile? America Always Moves Forward," advertisement, New York Times 12 Jan. 1921: 18.

²²Herbert Kaufman, "Don't Listen to the Liar," McClure's 21 Jan. 1921: 5.

²³Martha L. Olney, Buy Now, Pay Later: Advertising, Credit, and Consumer Durables in the 1920s (Chapel Hill: U of North Carolina P, 1991) 85-86.

the home; the United States of the 1920s was becoming a "country of gadgets."²⁴

The Era of Youth

Fitzgerald called 1922 "The peak of the younger generation."²⁵ American youth, aided by the growing presence of the automobile, had begun to seek such pleasures as "the joy ride, the silver flask and the jazz orchestra."²⁶ Player pianos were advertised as the only way to make the home "compete with jazz halls and shallow plays."²⁷ Buy a new suite of furniture, another advertisement counseled, and "you will then be bidding intelligently against the outside world for the interest and companionship of your children--a spirited challenge to the Age of Jazz."²⁸

²⁴Irving Werstein, Shattered Decade 1919-1929 (New York: Scribner's, 1970) 71.

²⁵F. Scott Fitzgerald, "Echoes of the Jazz Age," Scribner's Magazine Nov. 1931: 460.

²⁶"Competing with the Silver Flask and the Jazz Orchestra," advertisement, American Magazine March 1925: 201.

²⁷"How Can the Home Compete with Jazz Halls and Shallow Plays?" advertisement, Saturday Evening Post 20 May 1922: 63.

²⁸"Competing with the Silver Flask and the Jazz Orchestra," advertisement, American Magazine March 1925: 201.

It is not known how many youngsters stayed home to admire the sofa, but many began to spend hours fiddling with wireless radiophone receivers. Some invited friends over for radio concert dance parties. The wireless hobby, popular with America's young people since before the war, grew rapidly.²⁹ Adults generally supported the youngsters' scientific pastime; according to one article, "At the very least it is taking the minds of the younger generation from amusements that may be questionable and giving them something that will be of tremendous use in the future."³⁰ It was not long, however, before parents and other members of the family discovered the joys and challenges of radio listening, and often preempted the receiver and its headphones (in this era before the loudspeaker made radio a family pastime).³¹

The BCL Hobby

The growth of leisure time early in the twentieth century fed the development of adult hobbies, encouraged by

²⁹Walter S. Hiatt, "A New Style of Adventures," Collier's 18 Oct. 1913: 27.

³⁰"Far-Reaching Influence of the Radio Telephone," Electrical World 4 March 1922: 419.

³¹Fitzgerald wrote of these years in general they had the feel of "a children's party taken over by the elders, leaving the children puzzled and rather neglected and rather taken aback." F. Scott Fitzgerald, "Echoes of the Jazz Age," Scribner's Magazine Nov. 1931: 460.

society as a way to maintain the American work ethic during leisure hours.³² The definition of "hobby" was elusive, but consensus seemed to require active participation; going to the movies or listening to the radio might not be hobbies but creating scrapbooks of screen stars or compiling log books of stations received would qualify. Broadcast listening, especially when it involved DX (reception of distant stations), required a certain measure of skill during the earliest years of radio broadcasting.³³

Amateur radio continued to grow in popularity during the early 1920s. At the start of America's involvement in the World War in 1917, the government had closed down 3,741 amateur stations run by 3,302 operators.³⁴ In 1920 the government licensed 5,719 amateur stations and in 1921 an additional 7,351.³⁵ Growing even faster, however, was

³²Hobbies would take on even more importance during the enforced leisure of the 1930s depression years. See Steven M. Gelber, "A Job You Can't Lose: Work and Hobbies in the Great Depression," Journal of Social History 24 (1991): 741-767.

³³Although a radio amateur won second place in American Magazine's 1916 "My Hobby--And Why I Recommend It" contest, the only technology-based hobby featured in 1923's version of the contest was photography; the other two winners were an executive with a "natural craze for earning" and a housewife whose pastime was "thinking pleasant thoughts." "My Hobby--And Why I Recommend It," American Magazine, June 1916: 103-104; "My Hobby and Why I Recommend It," American Magazine June 1923: 86+.

³⁴United States Department of Commerce, 1919 Report of the Secretary of Commerce and Reports of Bureaus, (Washington: GPO, 1920) 983.

interest in merely "listening in"³⁶ on wireless communication, which required no license.³⁷ The new radio enthusiasts were often older and less technically proficient than the amateurs, and were frequently "people of some affluence and of influence in their communities."³⁸ These Broadcast Listeners, or "BCLs", often included "the mayor, the eminent politician, the bank president, the leading merchant, the doctor, the minister, the president of the board of education."³⁹

The greatest division between amateur radio and broadcasting came early in 1922, when the Department of Commerce ruled that amateurs could no longer broadcast musical concerts, in order to eliminate interference with

³⁵United States Department of Commerce, Annual Report of the Commissioner of Navigation to the Secretary of Commerce for the Fiscal Year ended June 30, 1921 (Washington: GPO, 1921) 25.

³⁶In the usage of the 1920s one would "listen in" to radio, and the audience was made up of "listeners-in." At the same time, one spoke of "tuning" station KDKA rather than "tuning to" or "tuning in."

³⁷The Radio Bureau of the Department of Commerce in mid-1922 offered a "conservative estimate" of 600,000 radio receivers in use. United States Department of Commerce, Annual Report of the Commissioner of Navigation to the Secretary of Commerce for the Fiscal Year ended June 30, 1922 (Washington: GPO, 1922) 17.

³⁸Clinton B. DeSoto, Two Hundred Meters and Down (West Hartford: ARRL, 1936) 75.

³⁹"Phones and Amateur Radio," editorial, QST March 1922: 31.

transmitting stations holding commercial licenses.⁴⁰ In addition, amateur stations were required to remain silent from 8 to 10:30 p.m. daily and during Sunday morning church broadcasts.⁴¹ Radio enthusiasts' magazines campaigned to popularize BCL in order to secure radio's position and garner support in the face of attempts at stronger regulation. In 1922 the American Radio Relay League suggested radio clubs open meetings to the "broadcast public," in order to diffuse criticism of the amateurs' interference with broadcast reception and to promote greater public interest in radio.⁴²

The Radio Fad of 1922

In the early months of 1922, newspapers still treated broadcasting as a publicity stunt. Stories featured unusual uses of the new technology: a soprano performed a benefit

⁴⁰"Government Curbs Amateur Radio Music," New York Times 4 Feb. 1922: 3. The amateur licenses now read, "This station not licensed to broadcast weather reports, market reports, music, concerts, speeches, news, or similar information or entertainments." "Monthly Service Bulletin of the National Amateur Wireless Association," Wireless Age Feb. 1922: 41.

⁴¹United States Department of Commerce, Annual Report of the Commissioner of Navigation to the Secretary of Commerce for the Fiscal Year ended June 30, 1923 (Washington: GPO, 1923) 20.

⁴²Raymond Victor Bowers, "A Genetic Study of Institutional Growth and Cultural Diffusion in Contemporary American Civilization, an Analysis in Terms of Amateur Radio," diss., U of Minnesota, 1934, 203.

concert from an airplane circling New York; the following week a woman and man were married aloft in the same plane (piloted by Belvin W. Maynard, the "flying parson") while guests (and anyone else with a receiver) listened in by radio on the ground.⁴³

By 1922 both the American public and American business were ripe for the growth of radio's popularity. The recent war had expanded the geographical boundaries of people's thought, and drawn them together in a common effort.⁴⁴ The country was finally relaxing from the strain of the war years.⁴⁵ Some businesses seeking recovery from the depression of 1920 turned to radio manufacturing.⁴⁶

As the radio fad took hold, the words radio and broadcasting began to appear in advertisements for other products and services. As early as 1916, American Safety Razor company had advertised "Ever-Ready Radio Blade Safety

⁴³"Concert from Plane Aids Veterans' Camp," New York Times 15 April 1922: 3; "To Wed in Plane 3,000 Feet Above Times Square," New York Times 24 April 1922: 1.

⁴⁴Paul Schubert, The Electric Word: The Rise of Radio (New York: Macmillan, 1928) 192. According to Carl Dreher, Paul Schubert was the pseudonym of Pierre Boucheron, who was in charge of press relations for RCA. Dreher, Sarnoff: An American Success 56.

⁴⁵Frederick Lewis Allen, Only Yesterday: An Informal History of the Nineteen Twenties (New York: Harper, 1931) 76-7.

⁴⁶Hiram L. Jome, Economics of the Radio Industry (1925; New York: Arno, 1971) 86.

Razors" in the Saturday Evening Post.⁴⁷ Now girls and women could wear Radio Boots that went "on and off in a flash."⁴⁸ By June of 1922, boys were advised in a full page ad to buy Waterman's "Radio Recording Pen," the "favorite recording instrument with both professional and amateur operators,"⁴⁹ and in December could also choose the Esterbrook "Number 920 Radio Pen."⁵⁰ The broadcasting metaphor was used to sell chewing gum, men's suits, and even other media of advertising ("Broadcast Your Message in Colors Via Poster Advertising!" advised a billboard company in 1922; "People remember what they see far more vividly than what they hear.")⁵¹ Campbell's soup advised women to "Listen in!" to what their friends were saying about Campbell's Tomato Soup:

"C E D is the station for me--

C-ampbell's E-very D-ay!

⁴⁷"Ever Ready," advertisement, Saturday Evening Post 15 July 1916: 38.

⁴⁸"Radio Boot," advertisement, Saturday Evening Post 4 Nov. 1922: 80.

⁴⁹"Recording Radio Messages," advertisement, Saturday Evening Post 5 June 1922: 143.

⁵⁰"Number 920 Radio Pen," advertisement, Saturday Evening Post 16 Dec. 1922: 56.

⁵¹"After Every Meal," advertisement, Saturday Evening Post 25 Nov. 1922: 56-57; "Reviving and Broadcasting Throughout the Nation," advertisement, Saturday Evening Post 26 Aug. 1922: 76; "Broadcast Your Message in Colors Via Poster Advertising," advertisement, Printers' Ink Monthly April 1922: 43.

Its radiation brings jubilation--

Just hear what your neighbors say!⁵²

Radio Enters the Home

In 1922 the Radio Corporation of America published a 127-page catalogue cum instruction manual called Radio Enters the Home. Radio equipment had entered the house many years earlier, but it was not until 1922 that radio was to become part of the American household.⁵³

In spite of post-war social changes, "marriage and family remained the primary goal and homemaker the primary occupation" for American women in the 1920s.⁵⁴ According to the 1920 census, only 9 percent of married women were gainfully employed; by 1930 that had risen to only 11.7 percent.⁵⁵ In 1875, Abby Morton Diaz had asked, "How may woman enjoy the delights of culture, and at the same time fulfill her duties to family and household?" Her solution was local women's clubs, women's publications, and national women's congresses.⁵⁶ In the early 1920s, many homemakers

⁵²"Great For Breakfast," advertisement, Literary Digest 26 Aug. 1922: 37.

⁵³Radio Corporation of America, Radio Enters the Home (1922; Vestal, NY: Vestal, [1980?]).

⁵⁴Dorothy M. Brown, Setting a Course: American Women in the 1920s (Boston: Twayne, 1987) 247.

⁵⁵United States Department of Commerce, 15th Census--1930, vol. 4: Occupations, (Washington: GPO, 1933) 77.

⁵⁶Abby Morton Diaz, A Domestic Problem: Work and Culture in the Household (Boston: Osgood, 1875) 7, 104.

realized that daytime radio programming could also provide a solution.

The introduction of electrical appliances into the home in the 1920s may have increased the efficiency and reduced the drudgery of daily housework, but in many cases the new equipment merely allowed a larger number of chores to be crammed into the homemaker's workday.⁵⁷ Fewer households included live-in servants and extended-family members,⁵⁸ and while appliances such as vacuum cleaners and clothes washers could make up for the loss of an extra set of hands, nothing replaced the lost companionship for house-bound women . . . until radio entered the home.

The Department of Agriculture began offering home economics courses by radio in late 1921, based on the interest shown by rural housewives in the agricultural market reports the government had been sending out since earlier in the year.⁵⁹ By the end of 1922 Wireless Age

⁵⁷"Thus, in spite of efficiency, the 12-hour workday continued to be passed from one generation of housewives to the next like an heirloom," according to Annegret S. Ogden, The Great American Housewife: From Helpmate to Wage Earner, 1776-1986 (Westport: Greenwood, 1986) 153.

⁵⁸Ruth Schwartz Cowan, "The 'Industrial Revolution' In the Home," Technology and Change, ed. John G. Burke and Marshall C. Eakin (San Francisco: Boyd, 1979) 279.

⁵⁹J. Farrell, "The Housewife's Radio," Radio News 4 (1922): 1237.

claimed that "Broadcasting service that lightens the daily household tasks has aroused enthusiasm among women, making newspapers secondary in interest."⁶⁰

"Though still a toy the radiophone has pushed back the world's horizon so far that no woman can claim she is either shut in or shut out," proclaimed Good Housekeeping in the summer of 1922.⁶¹ Broadcasting had from the beginning been seen as a boon to "shut-ins," those physically unable to leave the home. For various physical and societal reasons, much of the female population was "shut in" during this period. Many stations that broadcast during the daytime offered programs for homemakers: Detroit's WWJ offered "hints to housewives" on weekdays from 9:30-9:40;⁶² WGI offered clothing and marketing talks.⁶³ Yet, as Diaz had pointed out, the housebound woman's greatest need may have been for programming outside the realm of homemaking information. According to Christine Frederick, one of the early advocates of scientific home management, "The mind, emotions and senses need exercise also."⁶⁴

⁶⁰Rosemary Clarke, "Listening In with the Home Folks," Wireless Age Dec. 1922: 45.

⁶¹In the introduction to Christine Frederick, "A Real Use for the Radio," Good Housekeeping July 1922: 77.

⁶²Radio Staff 25.

⁶³"Women Interested in Radiophone," Radio News 3 (1922): 967.

⁶⁴Christine Frederick, Household Engineering:

In the summer of 1922 Mrs. Frederick (her byline usually carried the honorific before her name) told Good Housekeeping's readers of radio's benefits for women in the home. She proposed a plan of daytime broadcasting that included physical education (setting-up exercises, health and beauty talks), children's programs, household interests, cultural topics (correct English, musical programs, drama and book reviews, fashion and dress discussions), and social interests (news, politics, worship, club activities).⁶⁵

Women in Radio

Women had participated in radio from the beginning. In 1908 inventor Lee de Forest married civil engineer Nora Blatch, granddaughter of early feminist Elizabeth Cady Stanton. Blatch later studied electrical engineering and worked in the laboratory with her husband.⁶⁶ California's "Doc" Herrold began teaching radio in 1909; in 1913 his new wife learned Morse code and began giving classes at the family dining table.⁶⁷ Mary Texanna Loomis, a relative of

Scientific Management in the Home, (Chicago: American School of Home Economics, 1919) 500.

⁶⁵Christine Frederick, "A Real Use for the Radio," Good Housekeeping July 1922: 77+.

⁶⁶De Forest called this the "first grave mistake" of their relationship, which ended within a year. Lee de Forest, Father of Radio (Chicago: Wilcox, 1950) 223.

⁶⁷Erik Barnouw, A Tower in Babel (New York: Oxford UP, 1966) 35.

19th-century radio experimenter Mahlon Loomis, went to Washington to find war work, and signed up for radio school. Her government license as a First-Class Radio Operator earned her only the position of secretary at the radio school, so in 1920 she founded her own school, Loomis Radio College.⁶⁸

"The Ladies are Coming," the American Radio Relay League announced in its magazine QST in August 1917. An editorial cautioned that when wartime restrictions were lifted, amateurs should no longer feel free to use the common nickname "Old Man" for fellow radio enthusiasts contacted in code, as several hundred women were expected to sign on. "Here's to them," the editorial closed, "and it gives us great pleasure to extend the glad hand of fellowship when the happy day comes, and we all re-open."⁶⁹ In 1920 at least one hundred women were licensed as amateurs in the New York area,⁷⁰ and one writer noted the amateurs in his town included a "great range of ages, nationality, religion, station in the social life of the town, yes and

⁶⁸Mabel Nelson Thurston, "This Young Woman Founded a Radio School," American Magazine May 1924: 73-74.

⁶⁹"The Ladies Are Coming," editorial, QST April 1917: 19. That month's cover showed a woman seated at a radio receiver.

⁷⁰Miss Marianne C. Brown, "One of the Gang," Radio Amateur News 2 (1920): 148.

even the difference of sex."⁷¹ Photographs of women and girls at their radio sets often appeared in enthusiast magazines, almost always without gratuitous comments on gender.⁷² A long article about a Brooklyn homemaker who designed and built receivers noted the "value and interest that radio holds for women."⁷³ Oblique acknowledgment of female interest in radio was reflected in the language of many books and articles, such as a sentence that began: "Even when the user knows what he or she is doing. . . ."⁷⁴ Exceptions to the equal treatment of male and female enthusiasts were rare, but most often appeared in the pages Radio News, whose breezy style sometimes lent itself to facile stereotypes. (It was in Radio News that young men were urged to interest their friends in the hobby by pointing out the growing presence of "the fair sex" in the ether, asking "what could be more interesting than a radiofone conversation during a long, lonesome evening with a sweet-voiced girl . . . ?")⁷⁵

⁷¹Wireless Age September 1920: 41-42.

⁷²For example, "The Girls at Radcliffe College . . . ,"
Radio News 3 (1922): 1090.

⁷³Alfred M. Caddell, "A Woman Who Makes Receiving Sets," Radio Broadcast 4 (1923): 28-33. Women were often employed by radio equipment manufacturers; see, for example, "Making Five Thousand Radio Sets a Day," Popular Mechanics Jan. 1925:13-16.

⁷⁴A. Hyatt Verrill, Radio for Amateurs: How to Use, Make and Install Wireless Telephone and Telegraph Instruments (New York: Dodd, 1922) 144.

⁷⁵"Get Your Friends Interested," Radio News 2 (1922):

Women and the Radio Fad

A Radio Broadcast article suggested radio retailers could help make radio more attractive to women by setting up the showroom to look like a living room.⁷⁶ Radio News also suggested that to attract more business, radio manufacturers should cater to the "female faction;" editor Hugo Gernsback envisioned a future in which women used "boudoir radio outfits" with velvet knobs and gaily colored tubes to listen to gossip and scandal all day.⁷⁷ The women's magazines took a much less frivolous view of the new technology. For example, People's Home Journal's radio column offered purely technical information, although no articles for men or children were published in this otherwise traditional homemaker magazine.⁷⁸

"Instead of their symptoms, elderly women on our boats and trains and in our sewing societies discuss the number of

680. Editor Hugo Gernsback also suggested that since the boys of amateur radio were "radio bugs," the girls might be called "radio butterflies." There is no indication the terminology ever caught on.

⁷⁶Lewis Wood, "Making Radio Attractive to Women," Radio Broadcast 4 (1923): 221-2.

⁷⁷H[u]go Gernsback, "Soon," Radio News 3 (1922): 822.

⁷⁸The column headed "Journal's Radio Department" first appeared in July 1922. Marshall D. Beuick, "First Steps in Radio," People's Home Journal July 1922: 31. The magazine printed no non-technical radio articles until a September 1923 story about church broadcasts, "Preaching by Radio," People's Home Journal Sept. 1923: 25.

stages of amplification necessary for DX reception," a California writer claimed in December 1922.⁷⁹ A woman won Radio Broadcast's 1924 DX contest, an achievement reported without any comment about gender.⁸⁰ Literary Digest printed instructions for constructing an inexpensive radio receiver, and later featured two schoolgirls who with no radio training or knowledge successfully built their own set from the magazine's plans. No emphasis was placed on the youngsters' gender.⁸¹ Even as radio sets became easier to operate, articles often noted many women's interest in technical aspects of radio reception, and the number who were joining the audience by building their own receivers.⁸²

A newspaper story about radio classes in the public schools was accompanied by the picture of a girl who had built a portable set into her hat.⁸³ Both males and females appeared in articles about so-called "freak" portable

⁷⁹Wilbur Hall, "The Pacific Coast is 'On the Air'," Radio Broadcast 1 (1922): 157.

⁸⁰Mrs. Rhodes won in the category for "ready-made receivers." "The DX Contest Winners," Radio Broadcast 5 (1924): 346.

⁸¹"How Two Girls Made a Receiving Radiophone," Literary Digest 10 June 1922: 29.

⁸²"Women and Wireless," Literary Digest 15 Dec. 1923: 25.

⁸³"Radio Receiving Sets Capable of Picking Up Concerts . . . ," Miami Herald 19 March 1922: 12A.

radios--but while the men most often showed off achievements in miniaturization (the ring radio, the radio hiking belt), women's greater number of fashion encumbrances led to stunts like the umbrella aerial,⁸⁴ or fantasies like the "Radio Girl"--fully equipped for receiving or sending--with hoop skirt for a coil and parasol for an antenna, headphones hidden under her curls, a microphone in her fan, and batteries in the hem of her skirt.⁸⁵

According to Literary Digest, many women who attended the 1923 radio show in New York showed "alert and intelligent interest . . . in new circuits, equipment, and recent improvements in the art."⁸⁶ But women in general were even more interested in the content of radio programming, and were quick to appreciate the various programs offered by broadcasters during the first years of the radio fad. Radio Broadcast's "Listener's Point of View"

⁸⁴"Get Your Friends Interested," Radio News 2 (1922): 680.

⁸⁵A. Mae Rogers, "The Radio Girl," Radio Amateur News 2 (1920): 74. Although there was no implication of any purpose other than the wearer's own enjoyment, the "radio girl" is reminiscent of the "illuminated girls" used to publicize electricity in the 1880s. See Carolyn Marvin, When Old Technologies Were New (New York: Oxford UP, 1988): 137-138.

⁸⁶"Women and Wireless," Literary Digest 15 Dec. 1923: 25.

column was written by Jennie Irene Mix from its inception in April 1924 until her death in 1925.⁸⁷

"Listening in" in 1922

The radio listening experience in 1922 was molded by the level of development of receiving equipment, the type of service offered by the broadcasters, and the needs and expectations of the listening audience.

The Equipment

Although Westinghouse had entered broadcasting in order to create a market for its radio equipment, the company was prevented by patent problems from selling receivers to the public until it reached an agreement with RCA in June of 1921.⁸⁸ Westinghouse produced the first home radio set advertised by RCA, the Aeriola Jr.⁸⁹ By mid-1922, more than 200 manufacturing firms were producing radio receivers, according to survey by the National Retail Dry Goods Association.⁹⁰ A 1925 study explained:

The period of the popularization of radio

⁸⁷"Listener's Point of View," Radio Broadcast 4 (1924) 474.

⁸⁸United States Federal Trade Commission, Report on the Radio Industry (Washington: GPO, 1924) 23-24. Westinghouse ran an ad in the October 1921 Wireless Age showing a receiver in a family setting. "Radio in The Home," advertisement, Wireless Age Oct. 1921: 7.

⁸⁹"Every Family Can Now 'Listen In'," advertisement, Radio News 3 (1922): 798-99.

⁹⁰"Radio Business Growth," New York Times 11 May 1922: 28.

corresponded roughly with the depression following the crisis of 1920. A large number of business men found themselves either in or on the verge of bankruptcy. Some of these naturally turned to radio [manufacturing] as the last resort. They did this whether they knew anything about radio or not. Consequently, many inadequate radio sets, hardly worthy of the name, were turned out on a gullible public.⁹¹

In the spring of 1922, according to Radio Broadcast, customers found themselves "in the fourth or fifth row at the radio counter waiting their turn only to be told when they finally reached the counter that they might place an order and it would be filled when possible."⁹² As QST, the magazine of the amateurs' Radio Relay League, described the radio situation in early 1922:

A year ago the radio [manufacturing] industry consisted of a hundred or so firms, struggling along as best they could with what by comparison was a pitifully small amount of trade, counting nickels to make ends meet. Then came the boom! And now they can't keep up. In the east it is practically impossible to buy a receiving set, one has to stand in line to get waited upon only to find that the store hasn't got even the parts one wants, the factories are months behind in their orders altho [sic] some of them have tripled their production, and in general the business has taken a boom that was beyond the fondest dreams of a year ago.⁹³

The Radio Institute of America instituted Saturday night

⁹¹Hiram L. Jome, Economics of the Radio Industry (Chicago: A. W. Shaw, 1925) 86.

⁹²"Radio Currents: An Editorial Interpretation," Radio Broadcast (1922) 1: 1.

⁹³"Phones and Amateur Radio," editorial, QST March 1922: 29-33.

open house "for the benefit of New Yorkers who are unable to obtain suitable radio equipment . . . owing to the acute shortage."⁹⁴ The Miami Herald advised readers that manufacturers of completely assembled sets were four months behind in delivery, and offered advice on constructing a set for \$30 to \$40.⁹⁵ Amateurs and hobbyists made sets for their neighbors, as a favor or for pay, like the Brooklyn woman who designed and built 36 sets for family and friends.⁹⁶

Because of the expense and limited availability of vacuum tubes, receivers using crystal detectors remained popular through 1922 and 1923. Simple and inexpensive to operate (they did not require batteries, as tube-sets did), crystal sets, such as the Aeriola Jr., had a range limited to about fifty miles, and required the use of headphones.⁹⁷ Sets employing a vacuum tube as a detector could be coupled with horn loudspeakers, allowing several persons to listen in simultaneously. In the spring of 1922, RCA's Aeriola Jr. crystal set cost \$32.50 including headphones and antenna;

⁹⁴"Radio Concerts for Public," New York Times 7 May 1922, sec. 2: 5.

⁹⁵"Radio Receiving Sets Capable of Picking Up Concerts . . . ," Miami Herald 19 March 1922: 12A.

⁹⁶Alfred M. Caddell, "A Woman Who Makes Receiving Sets," Radio Broadcast 4 (1923): 28-33.

⁹⁷Marriott, U.S. Radio Broadcasting 1408.

the one-tube Aeriola Sr., including headphones, antenna, and dry batteries cost \$75. RCA's Vocarola horn loudspeaker was available for \$30.⁹⁸ Early loudspeakers often did not produce high-quality sound, and more sophisticated listeners usually preferred headphones. One expert claimed that "loud-speakers . . . in the hands of inexperienced persons have done more harm to radio than almost any other factor."⁹⁹

The Service

By mid-1922 the government had licensed 382 "limited commercial" (broadcasting) stations, which it called "the largest and most unexpected development in radio."¹⁰⁰ Beginning with Westinghouse, which launched KDKA in 1920 in order to create a demand for radio equipment, companies owning radio patents opened stations in the larger cities. Westinghouse opened WBZ in Springfield, Massachusetts; WJZ in Newark, New Jersey; and KYW in Chicago. RCA opened WDY in Roselle Park, New Jersey; General Electric signed on with WGY in Schenectady; in New York City American Telephone and

⁹⁸"Every Family Can Now 'Listen In'," advertisement, Radio News March 1922: 798-99.

⁹⁹"About the Radio Round-Table," Scientific American Dec. 1922: 378.

¹⁰⁰United States Department of Commerce, Annual Report of the Commissioner of Navigation to the Secretary of Commerce for the Fiscal Year ended June 30, 1922 (Washington: GPO, 1922) 23, 17.

Telegraph operated WEAf. Elsewhere, smaller radio manufacturers and retailers also went on the air in order to increase the size of the listening audience. By early 1923, 222 of 576 broadcasting stations were owned by radio or electrical manufacturers and dealers; 72 were owned by educational institutions, 69 by newspapers or other publications, and 29 by department stores.¹⁰¹ Stations sprang up in hotels and department stores, at trade schools and universities.¹⁰²

In February 1922, American Telephone and Telegraph had announced plans to open a broadcasting station in the New York area through which "any one with whom it makes a contract can send out his own programs just as the company leases its long distance telephone wire facilities."¹⁰³ The station went on the air as WBAY in late July but because of technical problems moved three weeks later to a new location with new call letters.¹⁰⁴ As WEAf, the AT&T "toll" station sold its first share-of-the-ether to the Queensboro

¹⁰¹William Peck Banning, Commercial Broadcasting Pioneer: The WEAf Experiment (Cambridge: Harvard UP, 1946) 132-133.

¹⁰²The government list of broadcasting stations from May 1922 was reprinted in Archer, History of Radio to 1926 393-397.

¹⁰³"To Sell Wireless Telephone Service," New York Times 11 Feb. 1922: 14.

¹⁰⁴Banning 87.

Corporation for a fifteen-minute talk about its new housing development.¹⁰⁵ By November, however, the phone company admitted the concept was still "not much of a success."¹⁰⁶ Part of the AT&T plan was a network of interconnected stations, envisioned in 1921 as a service that would enable "national and local advertisers, industrial institutions of all kinds, and even individuals if they desire, to send forth information and advertising matter audibly to thousands."¹⁰⁷ By January of 1923 the company had linked two stations by telephone lines, and by June of that year could offer programmers access to a four-station network.

Program material during radio's fad years was provided free of charge primarily by amateur performers who volunteered their time¹⁰⁸ or by business people who realized

¹⁰⁵The text of this first WEAf commercial is reprinted in Gleason L. Archer, History of Radio to 1926 397-399. Although Queensboro purchased fifteen minutes of air time, the talk itself and the short introduction to the speaker, Mr. Blackwell, seems not to have taken more than seven or eight minutes, based on the script as printed. According to Archer, the station log shows the handwritten entry: "5:00/5:10 Queensborough Corp'n. [sic] Our first customer." Archer, History of Radio to 1926 276.

¹⁰⁶"No Opera by Radio During this Season," New York Times 7 Nov. 1922: 31.

¹⁰⁷Banning 67.

¹⁰⁸According to one article in early 1924, "no person has ever been paid [by a station] to broadcast." Raymond Francis Yates, "What Will Happen to Broadcasting?" Outlook 136 (1924): 604.

the publicity value of their company name attached to a dance band or a market report.¹⁰⁹ By the summer of 1921 KDKA was presenting a full week of varied evening programming to radio listeners in Pittsburgh and around the country, including music from 9 to 10 p.m. every weekday, radio questions and answers at 10 p.m., baseball scores three times an evening, and a newscast at 9:30.¹¹⁰ By the start of the new year New York area stations offered soloists and comedians from Broadway, news every hour on the hour beginning at 11 a.m., and children's stories by "The Man in the Moon," followed by "Sandman's Lullaby"¹¹¹ In Chicago Westinghouse's KYW broadcast on the following daily schedule that February:

2:15 p.m. news and market reports
 4:15 p.m. News Market and Stock Reports
 6:00 p.m. News Final Market and Financial Report
 7:00 p.m. Summary of Financial Report
 7:30 p.m. Children's Bed Time Story
 8:00 p.m. Musical Program
 9:00 p.m. News and Sports

The musical programs relied heavily on traditional American music and light classics such as "Carry Me Back to

¹⁰⁹This differed from later commercial sponsorship in that the businesses did not pay for air time, and bore any cost of program material. For examples of this type of programming, see Barnouw A Tower in Babel, 133.

¹¹⁰"Westinghouse Radio Station, KDKA," Detroit News 26 June 1921: 6.

¹¹¹F. A. Collins, "Broadcasting Broadway by Radio" New York Times 1 Jan. 1922, sec. 7: 2.

Ol' Virginny," "Love's Old Sweet Song," and the "Blue Danube Waltz," but also included other performances such as "Readings by Rita Smith, Dramatic Reader," and a "monologist (Famous Black Face)."¹¹²

Detroit's WWJ, which had begun broadcasting in 1920, offered a broadcast day more than twelve hours long in mid-1922, featuring evenings of "entertainment and edification by musicians and speakers" as well as mornings of recorded music and programming for housewives.¹¹³ Many stations offered Sunday church services, and evening programs for children. The editorial staff of Outlook magazine arrived weekly at WJZ's studio beginning in April, to present talks on current events.¹¹⁴ Popular Science Monthly's editor spoke monthly.¹¹⁵ In Miami Beach the Chamber of Commerce gave talks on WQAM to lure tourists, painting word pictures of the "Playground of the World."¹¹⁶

¹¹²"Westinghouse Radiophone Studio, Station KYW, Program--Week of February 27, 1922," Broadcast Pioneers Library, KYW station file.

¹¹³Radio Staff of the Detroit News, WWJ--The Detroit News: The History of Radiophone Broadcasting by the Earliest and Foremost of Newspaper Stations; Together with Information on Radio for Amateur and Expert (Detroit: Evening News, 1922) 24-25.

¹¹⁴"Publisher's Notes," Outlook 14 June 1922: 327

¹¹⁵"Popular Science Monthly Gives Lectures by Radio," Popular Science Monthly Jan. 1922: 23.

¹¹⁶During this era of long-distance listening, many northerners could receive signals from Miami. "Miami Beach Night Featured on Radio with Fine Program," Miami Daily

In March, Ed Wynn brought the cast of "A Perfect Fool" from the theatre to WJZ's studio.¹¹⁷ The first nationally advertised commercially sponsored programming may have been a series of monthly concerts beginning April 14, 1922, arranged by the musical instrument manufacturer C. G. Conn, Ltd., in which four different musical programs were broadcast simultaneously from four cities across the country (Conn dealers scheduled "Radio Concerts" at their stores for people without access to a radio receiver).¹¹⁸ Broadcasting opera to the public had been one of Lee de Forest's earliest goals, and from all accounts WDY's 1921 broadcast of the entire Chicago Opera's season was a popular success.¹¹⁹ In New York, however, neither RCA nor Westinghouse could persuade the management of the Metropolitan Opera to put its performances on the air.¹²⁰ In the fall of 1922, General

Metropolis 28 May 1923: 1. This idea was also tried by Plainfield, New Jersey, it is not known with what success. "Plainfield Uses Wireless to Advertise City's Merits," New York Times 15 Jan. 1922: 1.

¹¹⁷"'A Perfect Fool' by Radio," Wireless Age March 1922: 36.

¹¹⁸"Hear These Great Artists by Radio," advertisement, Saturday Evening Post 8 April 1922: 100; "Conn Radio Concerts," advertisement, Saturday Evening Post 13 May 1922: 126; "From Coast to Coast Conn Music Fills the Air," advertisement, American Magazine May 1922: 121.

¹¹⁹George P. Stone, "Radio Has Gripped Chicago," Radio Broadcast 1: 504.

¹²⁰"No Opera by Radio During this Season," New York Times 7 Nov. 1922: 31.

Electric's WGY (Schenectady) announced a new schedule that would devote one weeknight to dramatic productions, another to opera, a third to semi-classical music, and a fourth to popular music.¹²¹

Many stations offered news reports from one source or another, although American Telephone and Telegraph announced to the press that "America's first radio news service" would be broadcast from its station WBAY weekday afternoons from 4:30 to 5:30 beginning September 1, under the guidance of a former Daily News editor.¹²²

From the beginning stations had presented football and baseball games, and coverage of the 1922 World Series caused a large increase in the number of radio fans. Many people bought sets when they learned that specific sporting events such as a prize fight would be broadcast. "Music has its charms," one critic wrote, "but a fight for supremacy and championship fascinates and quickens the pulse even by radio."¹²³

It was natural, after years of publicity for the great distances achieved by experimenters and professional radio

¹²¹"New Program Schedule," Radio News 4: 1136.

¹²²"News Service by Radio," New York Times 11 Aug. 1922: 3.

¹²³"Public Criticism Aids Programs," New York Times 1 July 1923, sec. 6: 7.

operators, that long-distance listening would be one of the lures of the radio receiving hobby.¹²⁴ Although most BCLs did not make an active hobby of keeping logs of distant stations and entering DX contests, listeners would often boast of their late-night achievements. Other characteristics of 1922's radio service encouraged DXing rather than relaxed listening. The quality of reception and reproduction was usually markedly inferior to the sound quality of a phonograph and programming was often episodic: a one-hour concert might be followed by four hours of silence, and early broadcasters thought nothing of allowing silent intermissions between musical numbers.¹²⁵ In addition, the use of headphones made the listener a captive of the receiver, unable to combine casual listening with other chores.

As more stations joined the pioneers in the ether, listeners seeking the thrill of pulling in a distant city's station often found their reception interrupted by local

¹²⁴The parallels to professional wireless operation were reinforced in early radio advertising; according to one RCA ad, "the romance is in getting the far-away messages." "To-Night Listen In," advertisement, Literary Digest 24 Feb. 1923: 77.

¹²⁵An announcer might say "[The artist] will render a new selection in a few minutes," leaving music fans with nothing to listen to and DXers nothing to tune in; Radio News editor Gernsback suggested announcers run a metronome or strike a bell during silent moments. H[ugo] Gernsback, "What Radio Broadcasting Needs," Radio News 5 (1924): 865.

broadcasters. A movement began to assign regular "silent nights" to different cities or regions, so radio fans could receive distant stations without local interference.¹²⁶ Monday was silent night in Chicago and in Louisville.¹²⁷ At WWL in New Orleans, Saturday became silent night.¹²⁸ Hugo Gernsback, editor of Radio News, later suggested that each of the four national time zones observe an hour of silence on successive nights.¹²⁹ Calls for silent nights continued throughout the first half of the 1920s, although as local programming improved listeners began to lose interest in distance for distance's sake, and as commercial sponsorship became more prevalent silent periods became a financial imposition on the broadcaster.¹³⁰

As radio's popularity grew, so did the difficulty of

¹²⁶"A Plea for a Night Off," Radio News 4: (1923) 1401.

¹²⁷Richard Crabb, Radio's Beautiful Day (Aberdeen: North Plains, 1983) 3; Credo Fitch Harris, Microphone Memoirs of the Horse and Buggy Days of Radio (Indianapolis: Bobbs, 1937) 253.

¹²⁸C. Joseph Pusateri, Enterprise in Radio: WWL and the Business of Broadcasting in America (Washington: UP of America, 1980) 44. According to Erik Barnouw, other regular silent nights included Cincinnati on Thursday, Kansas City on Saturday, Dallas Wednesday after 3 p.m., and San Francisco daily between 7 and 7:30 p.m. Erik Barnouw, A Tower in Babel (New York: Oxford UP, 1966) 93.

¹²⁹H[ugo] Gernsback, "What Broadcasting Needs," editorial, Radio News 5 (1924): 865.

¹³⁰Kingsley Welles, "Do We Need 'Silent Nights' for Radio Stations?" Radio Broadcast 7 (1925): 753.

receiving a clear signal because of interference from amateur transmitters and competing broadcasting stations. In 1922 all entertainment broadcasting was assigned to the same wavelength, 360 meters.¹³¹ Thus, all stations in one city broadcast on the same frequency and interference made clear reception impossible. Wireless communications were still regulated under the Radio Act of 1912, which had not anticipated the development of broadcasting to the public. Because the law governed use of radio on ships, enforcement fell to the Department of Commerce Bureau of Navigation. Secretary of Commerce Herbert Hoover said, upon opening the first national radio conference in February 1922, "This is one of the few instances where the country is unanimous in its desire for more regulation".¹³² The conference's final report proposed moving amateurs to a lower waveband and creating a new class of broadcast stations to be assigned a wavelength other than 360.¹³³

¹³¹Weather and all other Government reports were broadcast on 485 meters, requiring a shift in wavelength when that information was to be transmitted.

¹³²"Asks Radio Experts to Chart the Ether," New York Times 28 Feb. 1922: 16. For a description of the four annual radio conferences, see Edward F. Sarno, Jr., "The National Radio Conferences," Journal of Broadcasting 13 (1969): 189-202.

¹³³"Proposes New Laws for Radio Control," New York Times 28 April 1922: 21. In March the Department of Commerce created a separate classification for stations of 500 watts power or more that agreed not to program phonograph or other mechanical music, and assigned these "Class B" stations to 400 meters. Yet as the year closed,

At this time in broadcasting's development, few foresaw radio as a 24-hour-a-day service; most stations went on the air for only a short period each day.¹³⁴ Although in most cities station owners worked out plans to share the broadcast day, conflicts arose. In the New York area eleven stations agreed to a tentative time-sharing schedule in May 1922.¹³⁵ However, in July WJZ, one of the nation's earliest and strongest broadcasting stations, refused to concede time to WOR, a new station from Bamberger's department store; WJZ, owned and operated jointly by the Radio Corporation of America and Westinghouse, threatened to leave the air if forced to limit its broadcast schedule for the benefit of other stations.¹³⁶

only eleven out of more than 500 stations had been reclassified. "About the Radio Round-Table," Scientific American Dec. 1922: 378.

¹³⁴For example, WHAS in Louisville was licensed for 24-hour service, but broadcast only from 4 to 5 p.m. each afternoon and 7:30 to 9 p.m. every night but Sunday. Credo Fitch Harris, Microphone Memoirs of the Horse and Buggy Days of Radio (Indianapolis: Bobbs, 1937) 44. Because all stations were assigned to the same 360-meter wavelength, a station making only limited use of its license was not hoarding a wavelength someone else might put to better use.

¹³⁵"Broadcasting Stations Agree on Time Dividing Schedule," New York Herald 21 May 1922, sec. 2: 5.

¹³⁶"Radio Society Asks Hoover to Bar WJZ," New York Times 23 July 1922: 17; "WJZ Extends WOR Courtesies of Air," New York Times 25 July 1922; WJZ May Close Up to End Radio Row," New York Times 30 July 1922.

The Audience

"President Harding has a new toy to play with," announced the New York Times on February 9, 1922.¹³⁷ Within weeks the president declared himself a daily listener.¹³⁸ Secretary of Commerce Herbert Hoover estimated 600,000 radio receivers in American homes,¹³⁹ and in May the self-proclaimed "Father of Radio," Lee de Forest, predicted that within five years America's one million radio listeners would become twenty million.¹⁴⁰

One man described his first radio experience as a "revelation":

Once the head-phones were adjusted I might have been completely off of this whirling sphere, for all of the mental connection I had with it. It was as though you were sitting up on top of the globe, in a world made up solely of sound. First a few clicks, then a steady humming, like a distant hive of enormous bees, then, with startling and sudden distinctness, a man's voice saying "Baltimore, Maryland," in my ear. I jumped. . . .¹⁴¹

Many Americans learned about the remarkable new service

¹³⁷"Wireless Telephone Receiver Installed in Harding's Study," New York Times 9 Feb. 1922: 1.

¹³⁸"President Radio Fan," New York Times 3 April 1922: 3.

¹³⁹"Asks Radio Experts to Chart the Ether," New York Times 28 Feb. 1922: 16.

¹⁴⁰"Dr. Forest [sic] Predicts 20,000,000 Radios," New York Herald 7 May 1922, sec. 2: 5.

¹⁴¹Stanley B. Jones, "How to Sell Ten Million Radio Outfits," Radio News 3 (1922): 840.

from relatives, or friends who had a "radiophan"¹⁴² in their homes.¹⁴³ But radio was also in the air on Main Street and on 42nd Street. During the winter of 1921-22, radio supply stores had "sprung up by the hundreds."¹⁴⁴ Radio receivers were found for sale in hardware stores, drug stores, clothing stores.¹⁴⁵ Department stores had demonstration displays. New York's Lord and Taylor department store advertised radio sets to pick up the 1922 World Series, offering free score sheets from its seventh-floor radio department.¹⁴⁶ In addition, demonstrations were often set up at meetings and conventions.¹⁴⁷ The annual fall radio show joined the auto show as a popular introduction to industry's new model season.¹⁴⁸ Chicago's first Radio Show, in August 1921, included military displays and exhibits by fifty "radio and electrical concerns."¹⁴⁹

¹⁴²A nickname for "radiophone fan" often found in enthusiast magazines.

¹⁴³Austin C. Lescarboursa, Radio for Everybody (New York: Scientific American, 1922) 59.

¹⁴⁴"Far-Reaching Influence of the Radio Telephone," Electrical World 4 March 1922: 419.

¹⁴⁵H[u]go Gernsback, "Soon!" Radio News 3 (1922): 822.

¹⁴⁶"The World Series by Radio," New York Times 1 Oct. 1922, Sports sec.: 27.

¹⁴⁷Stanley B. Jones, "How to Sell Ten Million Radio Outfits," Radio News 3: 842.

¹⁴⁸Fall radio shows continued through the decade. For example, see Edgar H. Felix, "What's New at the Radio Shows," Radio Broadcast 9 (1926): 518-522.

Many early radio fans offered neighborhood concerts, or planned parties around broadcast music. According to the Detroit News, during its station WWJ's first week of broadcasting in 1920, "a party at the home of C. F. Hammond, 700 Parker Avenue, Detroit, danced to music sent out by the News apparatus and this was considered the local beginning of the social aspect of wireless telephone."¹⁵⁰

One Massachusetts enthusiast described his Saturday night in a letter to a local station:

I tuned in at about 9 o'clock and stayed on till you finished. You see, I have a loudspeaker attachment and I always open the window so people outside may hear also. It was only about fifteen minutes and a crowd of friends and residents were standing outside listening and they stayed until you signed off. Also tourists traveling along the highway stopped to listen.¹⁵¹

In a small Mississippi town, the banker bought a receiver for the community, installed it at the high school, and invited the whole population (350) to a weekly Saturday night concert of country music.¹⁵² In March Chicagoans were treated to a demonstration of radiophone music during an

¹⁴⁹"Radio Exposition Opens in Chicago on Aug. 31," Detroit News 30 July 1921: 9.

¹⁵⁰Radio Staff of the Detroit News 9.

¹⁵¹Clark Radioana Collection, box 535, 134-818A.

¹⁵²Bob McRaney, Sr., The History of Radio in Mississippi (n.p.: Mississippi Broadcasters Assn., [1970s?]) 7.

Edison Symphony concert at Orchestra Hall, where "a receiving apparatus was set up on the stage, with an aerial stretching from the stage to the gallery and another coiled on a frame near by."¹⁵³ The symphony's conductor demonstrated the techniques and limitations of the new technology.

Out west, rural Woodleaf, California, arranged a "Radio Hoot Owl Picnic" that drew more than three thousand men, women, and children. "Hundreds of listeners in, residents of mountainous districts who had never before heard radio, received their first opportunity last Sunday and were so enthused and interested they stayed late into the night in order to enjoy music from various Coast stations."¹⁵⁴

Any family that received the Sears, Roebuck or Montgomery Ward catalogue knew about the radio fad. Sears went on the air with station WLS ("World's Largest Store") and called itself "Radio Headquarters."¹⁵⁵ Both Sears and Montgomery Ward began offering radio equipment through both

¹⁵³Edward Moore, "Edison Orchestra Gives Radio Concert," Chicago Daily Tribune 3 March 1922: 19.

¹⁵⁴Julius Mueller to Gladys Salisbury, KPO (San Francisco), Broadcast Pioneers Library, scrapbook RG4-1. The "Hoot Owls," a group of business and professional men, broadcast late at night over Portland, Oregon station KGW. See "Hoot Owl Stuff," Wireless Age May 1924: 40; "The 'Hoot Owls' of KGW," Radio Broadcast 7 (1925): 755.

¹⁵⁵"WLS, The World's Largest Store," advertisement, American Magazine Nov. 1924: 155.

their regular home catalogues and special catalogues. Sears's fall 1919 catalogue had offered Gilbert Telegraph Outfits as toys for "the older boy" as well as a page of "Telegraph Instruments-Morse-Wireless" and a coupon for the "Radio Apparatus Catalog."¹⁵⁶ Through the spring book of 1921, one page of "Radio Telegraph Apparatus" was offered; by fall of 1921 the word "telegraph" had been dropped. In the spring of 1923, Sears offered the fully-assembled Aeriola Sr. set from Westinghouse (\$65) in addition to three pages of radio parts and equipment.¹⁵⁷ Montgomery Ward, which advertised its radio catalogue in the enthusiasts' magazines, offered complete sets for as little as \$23.50 in the fall of 1923.¹⁵⁸

Popular technical and scientific magazines offered instruction in radio construction and practice during the winter of 1921-22, but general interest magazine coverage was still at the "gee whiz" stage, informative about the theory and technology, but short on suggestions for participating. Gradually, through the spring, the mass

¹⁵⁶Sears, Roebuck and Company, catalogue, fall 1919: 841, 1319.

¹⁵⁷Sears, Roebuck and Company, catalogue, spring 1923: 807-809.

¹⁵⁸Montgomery Ward, catalogue, fall/winter 1923: 618-619. Ward's also advertised its separate radio equipment catalogue in magazines; see "Radio Catalogue Free," advertisement, Popular Science Monthly Sept. 1923: 83.

circulation magazines began to present radio as a pastime worth trying. Radio magazines became more popular, and the arrival of Radio Broadcast in May of 1922¹⁵⁹ prompted changes in Wireless Age, the old Marconi magazine taken over by RCA, which went from an amateur's publication to "A Real Radio Magazine for the Whole Family."¹⁶⁰

Stations printed program guides listing hours of service and musical selections to be played, which were mailed to radio clubs and other organizations, and to the daily newspapers.¹⁶¹ By spring many newspaper were printing a daily schedule of broadcasts available from the major stations around the country.¹⁶² Forty-eight newspapers themselves owned radio stations by 1922.¹⁶³ As the radio fad took hold, the technically-oriented Sunday radio page

¹⁵⁹"The New Radio Magazine You've Been Looking For," advertisement, Outlook 12 April 1922: 20.

¹⁶⁰"A Real Radio Magazine for the Whole Family," advertisement, Wireless Age June 1922: 102.

¹⁶¹Austin C. Lescarboursa, Radio for Everybody (New York: Scientific American, 1922) 40.

¹⁶²"Far-Reaching Influence of the Radio Telephone," Electrical World 4 March 1922: 419. Within several years publishers would begin to feel threatened by radio's success as an advertising medium, and their attempts to limit free program listings were the first shots in what has come to be known as the Press-Radio War of the 1930s. See Arthur Robb, "Cutting Free Publicity From Radio Programs," Editor & Publisher 2 Oct. 1926: 5, 20.

¹⁶³Lawrence W. Lichty and Malachi C. Topping, eds., American Broadcasting: A Source Book on the History of Radio and Television (New York: Hastings, 1976) 154-55.

(with its circuit diagrams and code-practice schedules) evolved into a program guide, with accompanying columns of general news of broadcasting and broadcast programming. In addition, radio stories in other sections of the paper were more often about broadcast listeners than scientists or inventors. The Miami Herald's various one-page neighborhood news and advertising sections boasted about local radio achievements, such as the "young wireless operator residing in Highland Park [who] hears music from Newark and Pittsburgh."¹⁶⁴ The local radio club announced that 10 of Miami's radio amateurs had equipment capable of receiving KDKA's musical concerts and talks.¹⁶⁵ Department stores that owned stations usually announced their programs within the stores' newspaper ads.¹⁶⁶

As radio broadcasting service developed and family members began to take an interest in listening in, the size of the audience grew even faster than the number of sets in use. The number of listeners per set grew even higher as loudspeakers became more widely used:

¹⁶⁴"Hears Concerts over Wireless Telephone," Miami Herald 19 March 1922: 10A.

¹⁶⁵"Wireless Amateurs Are Arousing Much Interest In Miami," Miami Herald 12 March 1922: 9A.

¹⁶⁶For example, "Today's Radiophone Program," advertisement, New York Herald 20 May 1922: 20.

<u>Year</u>	<u>Homes with sets</u>	<u>Audience</u>	<u>Listeners per set</u>
1922	60,000	75,000	1.25
1923	1,500,000	3,000,000	2
1924	3,000,000	10,000,000	3.3 ¹⁶⁷

Problems and Disappointments

Most listeners understood the limits of the developing technology, and the need for good humor and patient fiddling. But while pundits rhapsodized in general terms, retailers and advertisers often raised neophytes' expectations to unrealistic heights. In February 1922, in the opening weeks of the radio boom, with most of America's 300 stations broadcasting merely several hours per week (and much of it from phonograph records), the National Radio Institute advertised "Plug Your Home in On the Radio Line":

If you can listen over a telephone, you can listen by wireless. It's just a matter of turning a small knob. And the air is full of music and entertainment. You can hear your favorite artists, Bert Williams, Al Jolson, Hofman, Heifetz, or Farrar. Then there is the important news of the world and special speeches by well-known men. The program is continuous from morning until night, ending with wireless bedtime stories for the children. The radio age is surely here."¹⁶⁸

A panel of experts warned that broadcasting lacked

¹⁶⁷"Statistical Survey of the Radio Business," Radio Retailing March 1928: 36-37. Estimates are as of January 1, including factory- and home-built receivers

¹⁶⁸"Plug Your Home in On [sic] the Radio Line," advertisement, Popular Science Monthly Feb. 1922: 103. The same issue of the magazine warned editorially that "readers must remember that radiophone outfits are not yet perfect, and that messages are heard far less satisfactorily in some localities than they are in others. "What Will Radio Mean to You?" Popular Science Monthly Feb. 1922: 27

organization, direction, and secure financing, and "should be taken down to its very foundations and reconstructed along safe and sane lines."¹⁶⁹

Spring's radio fever heated the clamor for receiving equipment, but summer atmospheric conditions brought poorer reception. As Scientific American described the situation,

A demand of overwhelming proportions was created for radio equipment, thousands of inexperienced firms and persons got into the radio business, millions upon millions of dollars' worth of apparatus was dumped on the market, the bottom fell out with the first signs of "static" at the approach of last summer's warm days, at a time when production was reaching the peak, and a serious slump followed.¹⁷⁰

Attempting to keep enthusiasm up, magazine articles touted radio as a "companionable chum on motor trips and around the campfire."¹⁷¹ Ads encouraged buying new equipment "before weighing anchor for that pleasure cruise-- or packing up to spend your vacation in secluded camp or farmhouse."¹⁷²

Most broadcasters had anticipated the summer lull, but, as Radio News put it, "the worst of it is, it lingered on

¹⁶⁹"About the Radio Round-Table," Scientific American Dec. 1922: 378.

¹⁷⁰"About the Radio Round-Table" 378.

¹⁷¹Armstrong Perry, "How Radio Adds to the Joys of My Vacation," Popular Science Monthly June 1922: 68.

¹⁷²"An Essential Part of Every Receiving Set," advertisement, American Magazine Aug. 1922: 103.

into the winter."¹⁷³ Literary Digest said Americans had "tasted of radio and made a wry face," because of interference.¹⁷⁴ Wireless hero Jack Binns decried the state of the art:

Publicity seekers are nightly disturbing the ether with worthless talk that interrupts really good radio programs. Business concerns are doing unwelcome advertising by radio, and filling up the intervals in their programs with canned jazz that is equally unwelcome.¹⁷⁵

Even those who disagreed with Binns' opinion on programming acknowledged that the proliferation of stations was a disservice to both the listening public and the broadcasters.

In the face of flagging interest, the radio publications organized a "National Radio Week" promotion, offering free postcards for radio set owners to use for inviting friends to come over and sample radio's wares. "Today not one man out of 25 really knows about radio," claimed Radio News. "Not one out of a hundred has been able to listen to a good radio set in the home. . . . Most of the population have heard loud-speakers in front of stores

¹⁷³Armstrong Perry, "Keeping the Public Sold on Radio," Radio News 4 (1923) 1444.

¹⁷⁴"The Need for Laws to Soft-Pedal Radio Chaos," Literary Digest 13 Jan. 1923: 25.

¹⁷⁵Jack Binns, "A New Broadcasting Plan," Popular Science Monthly May 1923: 38.

and have probably become discouraged on account of this."¹⁷⁶

By mid-1923 there were 573 radio broadcasting stations and still no radio regulation.¹⁷⁷ Secretary Hoover's second radio conference recommended reallocation of wavelengths (between 222 and 545), silencing of amateur communications between 7:30 and 10:30 p.m. daily, and primary identification of stations by frequency (kilocycles per second) rather than wavelength. Three classes of station were to be created: Class A at 222 to 300 meters, with power not exceeding 500 watts, and Class B at 300 to 545 meters, with 500 to 1,000 watts of power, both with "quality of program" standards; and Class C for stations remaining at 360 meters. No new licenses would be issued for the 360 meter wavelength.¹⁷⁸

Prospects for the future

As the radio fad cooled down, interest in distance for distance's sake decreased, and a larger proportion of the audience began to take pleasure in the passive entertainment afforded by listening in. The novelty of pulling voices from the air began to wear off and the growing availability

¹⁷⁶"National Radio Week," Radio News 4 (1923): 1280.

¹⁷⁷United States Department of Commerce, Annual Report of the Commissioner of Navigation to the Secretary of Commerce for the Fiscal Year ended June 30, 1923 (Washington: GPO, 1923) 18.

¹⁷⁸"The New Radio Regulations," Wireless Age May 1923: 43.

of--and improvements in--loudspeakers began to transform radio into a background activity and a form of family entertainment.¹⁷⁹

Although the public remained excited by the possibilities of radio broadcasting, by the end of 1924 radio's potential was still unrealized. Equipment continued to require attention and skill. Programming was haphazard and in some cases merely perfunctory. Westinghouse's H. P. Davis, the man credited with putting KDKA on the air in 1920, had sounded this cautionary note at the peak of the 1922 fad:

The growth of the public approval has been too rapid to be healthy, as it outstrips the growth of the development of the art, and while the fascination of broadcasting is the impelling force now, the period of development of not only the apparatus, but of the service itself is going to require patience and forbearance on the part of the public.¹⁸⁰

Radio as a novelty--including the sport of DX--probably reached its peak in the winter of 1924-1925.¹⁸¹

¹⁷⁹Armstrong Perry, "The Itch for Distance," Radio News 4 (1923): 1777; Jesse Marsten, "An Aspect of the Future of Broadcasting" Radio News 5 (1923): 248.

¹⁸⁰H. P. Davis, "The Permanency of Broadcasting," Wireless Age May 1922: 28.

¹⁸¹Robert H. Marriott, paper presented to 4th annual convention of the Institute of Radio Engineers, 13 May 1929, Clark Collection Box 537, #134-1070A. A January, 1925 RCA ad claimed "The 'distance fan' is now a listener!" "Radiola X," advertisement, American Magazine Jan. 1925: 75.

Certain segments of the American public, however, saw too much value in radio service to abandon the new medium at the first sign of trouble. For example, radio had early proved itself useful to farm families. In 1910 Hugo Gernsback, then publisher of Modern Electrics, prophesied that within ten years farmers would have radio telephones as two-way tools for communication.¹⁸² In mid-1921 the government began sending out agricultural market reports by wireless. Although intended to allow farmers to monitor daily market conditions, the reports were to be received by extension agents and volunteer amateur wireless operators, who would pass the information along to individual farmers.¹⁸³ Farm Journal soon predicted that "in the near future any progressive farmer may have his own automatic receiving apparatus."¹⁸⁴ In the summer of 1921 the federal government proposed sending agricultural market reports and other business news using the radio stations of the Air Mail service,¹⁸⁵ and by September 1921 market reports were broadcast several times a day from the post office's Air

¹⁸²H[ugo] Gernsback, The Wireless Telephone (New York: Modern Electrics, 1910) preface.

¹⁸³"Wireless Now Carries Late Market Reports," New York Times 19 June 1921, sec. 2: 1.

¹⁸⁴"Wireless for Farmers," editorial, Farm Journal Feb. 1921: 11.

¹⁸⁵"Wireless Phone Service Planned," Detroit News 21 July 1921: 1.

Mail Radio Service to amateur operators, in "hope that these operators will receive the reports and see that they are placed in the hands of interested persons."¹⁸⁶ In September 1922, RCA advertised to farmers that, in addition to market and weather reports, "with proper Radiola amplification units, radio parties may be given even in the barn, where the young folks can dance to the music from America's famous orchestras."¹⁸⁷ One survey estimated 10,000 radio sets on farms in 1922, 145,000 in 1923, and 360,000 in 1924.¹⁸⁸

Radio was also a boon to the shut-in and the blind.¹⁸⁹ Radio listening helped pass the time in hospital wards,¹⁹⁰ and one technically astute tuberculosis patient provided each bed in his sanitarium with a receiver.¹⁹¹

The family woman running a household was also often

¹⁸⁶"How Wireless is Helping the Farmer," Popular Science Monthly Sept. 1921: 59.

¹⁸⁷"Radio in the Farmer's Home," advertisement, Saturday Evening Post 16 Sept. 1922: 114.

¹⁸⁸"Statistical Survey of the Radio Business," Radio Retailing March 1928: 36.

¹⁸⁹United States Department of Commerce, Annual Report of the Commissioner of Navigation to the Secretary of Commerce for the Fiscal Year ended June 30, 1923 (Washington: GPO, 1923) 18.

¹⁹⁰"Wounded Veterans Discover New Joys in Wireless," Popular Science Monthly Mar. 1922: 121.

¹⁹¹"He Furnishes Radiophone Cheer to Sick People," American Magazine Sept. 1922: 65-66.

shut in the house; in 1923 the Radio Press Service claimed that to women on isolated farms and in small towns, "radio is not merely a joy, it is rapidly becoming a necessity."¹⁹² By the summer of 1924, Christine Frederick was congratulating herself on the success of her radio cooking school and the "radio teas" she organized in Chicago, writing

They are a joy to uncounted thousands of women. They may have a baby on their lap, or a dirty apron on, and be too tired to get up out of a chair, but they can "come to the radio tea" nevertheless!¹⁹³

Writing in The Bookman early in 1922, Mary Austin had castigated women for allowing themselves to be merely "passive spectator[s] to the male performance" in the arts, rather than a true critical audience, with both "privilege and obligation in respect to the quality of the performance." In addition, Austin said, women must make their concerns and experiences part of the cultural product.¹⁹⁴ As early broadcasters strove to understand radio's place in American society, the input of female listeners took on growing importance.

¹⁹²"Women and Wireless," Literary Digest 15 Dec. 1923: 25.

¹⁹³Christine Frederick, "How I Made a Career out of Home and Radio," Wireless Age August 1924: 90.

¹⁹⁴Mary Austin, "Women as Audience," The Bookman March 1922: 1-5.

Because the first broadcasters were more interested in the act of broadcasting than in its content, they were willing to provide whatever programming the public seemed to enjoy. Many broadcasters sought goodwill publicity from their investment in radio, and hoped to link their business names with pleasing programs. Broadcasters relied on letters, phone calls, and telegrams from the listening public for guidance in programming their stations. Throughout the earliest years of American radio broadcasting, writers and broadcasters insisted the public could get what it wanted from radio merely by making its wishes known. "Here is what the radio people can give you if you want it," wrote Stanley Frost in "Radio Dreams That Can Come True."¹⁹⁵

Broadcasting stations solicited listener mail for four reasons: to ascertain the size of the listening audience,¹⁹⁶ to measure the geographical coverage of their signal, to

¹⁹⁵Stanley Frost, "Radio Dreams That Can Come True," Collier's 10 June 1922: 9. Twenty-five years later critic John Crosby warned television not to repeat radio's mistakes, writing that "it was not the responsibility of the listener to request something he had never heard of." John Crosby, "Seven Deadly Sins of the Air," Life 6 Nov. 1950: 150-151.

¹⁹⁶Wireless Age estimated the size of the radio audience in 1923 by tabulating responses to station questionnaires about their volume of listener mail. The magazine concluded that the national audience was 11,160,180. "How Large is the Radio Audience?" Wireless Age Sept. 1923: 23.

gauge reaction to program content,¹⁹⁷ and to encourage performers (who were otherwise unpaid).

Feedback to broadcasters was a natural outgrowth of the two-way communication that characterized and still characterizes amateur radio telegraphy and telephony. In addition to chatting, relaying messages, and exchanging technical information, amateurs use information from those receiving their signal to judge their own transmitter power and coverage. Likewise, the best gauge of receiving equipment is the location and number of stations received. Amateurs verified their communications by exchanging so-called QSL cards, postcards printed with the amateur's name, call letters, and location.¹⁹⁸

In much the same way, broadcast listeners during radio's first years often wrote describing their receivers and detailing the quality of reception, as well as commenting incidentally on program content. Listeners also

¹⁹⁷Pioneer station KDKA paid Marjory Stewart, a blind graduate of the University of Pittsburgh, to monitor and critique the station's programming. Among her suggestions were setting a 15-minute limit on talks, telling the stories of operas before they were broadcast, and broadcasting theatre and book reviews; see "The Girl Who Helped Put Radio on a Balanced Diet," American Magazine May 1929: 65-66. It is not known how many other stations employed professional in-house critics, but in 1926 WGN signed up more than 1,000 "official listeners;" see "Broadcasting Miscellany," Radio Broadcast May 1926: 40.

¹⁹⁸Amateur radio shorthand includes a series of three-letter abbreviations for common phrases. "QSL" is the acknowledgment that a message was received.

telephoned stations and sent telegrams; announcers often read out the names over the air. Later, when interest shifted to program content, listeners could use pre-printed "applause cards,"¹⁹⁹ which were often provided by equipment manufacturers and radio stores as a supplemental method of advertising. One radio writer suggested the stations themselves provide stamped cards to all nearby radio listeners in order to encourage the audience to express its likes and dislikes.²⁰⁰ In 1924, the Milwaukee Journal radio department formed a "broadcast listeners' club" to send out a "constant stream of applause" via pre-printed cards.²⁰¹

Early in 1922 station WGI followed a broadcast of "fashion talks" with a plea to women in the audience for feedback on continuing the series. The number of letters received persuaded the station to make it a regular feature.²⁰²

¹⁹⁹For example, see "Free Radio 'Applause Cards'," advertisement, American Magazine March 1924: 176.

²⁰⁰Armstrong Perry, "Radio as Entertainment," Radio News 4 (1922): 1056. Many letters, while thanking the station for its service, expressed dislike for certain performers or types of programming, and these too may have been read on the air; one letter to station WGI said "I do not agree with the party who called you such names." Clark Collection, Smithsonian Institution, Box 188 Series 8.

²⁰¹"Broadcast Listeners' Club," Radio Dealer April 1924: 91.

²⁰²"Women Interested in Radiophone," Radio News 3 (1922): 967.

Through 1923, however, most correspondents were probably BCLs more interested in radio reception than in program content. A typical letter read:

In response to your request of last Saturday night, I wish to state that the dance music played by the Albany Hotel Orchestra and broadcast by your station WGY was received very loud and clear.²⁰³

As interest shifted from technical information to program content, more women sent in their comments. An early broadcaster later said,

[At first] we had to depend on the men, and as every woman knows, men are mighty poor letter writers.

When women began to listen in, when they realized that they had something in their home that helped them with their work and entertained them while they were alone all day, we began to get all kinds of suggestions for improving the programs. . . . If the standard of radio entertainment has risen perceptibly in the past three years, the women of the country are largely to blame.²⁰⁴

Requests for listener mail were often couched in terms of etiquette and social obligation. Women used their social skills to write gracious thank-you notes to stations and performers. For example,

My husband and I are only too pleased to comply with your request that those who listened in to the service at the Methodist Episcopal church last

²⁰³Broadcast Pioneers Library, scrapbook, RG 4-1.

²⁰⁴Frederick L. Collins, "Growing Up With the Radio," Woman's Home Companion July 1928: 75.

night should write and express our pleasure and appreciation.²⁰⁵

Listeners were warned that a lack of "appreciation" gave performers little incentive to return to the microphone, in this era of unpaid performances.²⁰⁶ An editorial late in 1923 warned of a woeful slump in letters of appreciation to those who entertain through the ether."

It is not nice to scold . . . [but] sometimes the public has to be jolted into realization of its place in the scheme of things. An amazingly small percentage of the listeners are writing these days. Two years ago, an impressive program brought a response from one person in four; today . . . the ratio is one letter for every 20,000 listeners It can't go on. No artist can be expected to continue broadcasting without the stimulus of appreciation. . . . The situation is serious. Continued carelessness will cost the public dearly.²⁰⁷

By the spring of 1924, radio audiences had become "frightfully blasé . . . [and] many do not take the trouble to send in either recommendations or even criticisms of the programs heard."²⁰⁸ Listeners may have reduced the number of letters they sent, but they apparently still felt the obligation, and were often apologetic about neglecting their duties. One listener wrote, "It has been my pleasure for

²⁰⁵Clark Collection, Smithsonian Institution, report #30, box 535, number 134-818A.

²⁰⁶"Radiophone Broadcasting Station WDY," Wireless Age Feb. 1922: 19.

²⁰⁷"Taking the Listener to Task," editorial, Wireless Age Oct. 1923: 17.

²⁰⁸"What Listeners-In Want," Radio News 5 (1924): 1337.

some time past to enjoy the programs being broadcast by you, but I will admit that I have been lax in my 'applause'."209

Some magazine articles urged the listeners-in to keep their negative comments to themselves. "People . . . [overlook] the fact that at last they are getting something for nothing . . . ," one performer complained. Broadcasters and performers are trying their best to please the audience, she wrote. "If you don't like their stuff, . . . turn a dial and cease to be a guest, [but don't] send in thoughtless messages to mar the perfect pleasure of your host."210

Radio Broadcast magazine, while urging fans to make their opinions known to broadcasters, decried the attitude that listeners "owed" feedback to the station in return for free entertainment.²¹¹ Few others questioned this policy of listener obligation even in later years when paid performers were employed by commercial program sponsors, although advertising executive Roy Durstine pointed out that businesses would hardly expect people to write praising the

²⁰⁹Clark Collection, Smithsonian Institution, report #30, box 535, number 134-819.

²¹⁰Nellie Barnard Parker, "The Fly in the Ointment," Radio News 9 (1927): 15. This article was written from the point of view of the performers who considered letters their "applause."

²¹¹"Painless Ways of Improving Radio Programs," Radio Broadcast 9 (1926): 237.

painting used to illustrate a magazine advertisement.²¹² By the end of the decade most listeners had tired of being "harangued," and found an announcer's invitation to write in offensive.²¹³ Most listener correspondence in the last years of the 1920s responded either to programs about which the writer had strong feelings, or to offers of samples, brochures, or other premiums.

²¹²Roy S. Durstine, "Audible Advertising," Radio and its Future, ed. Martin Codel (New York: Harper, 1930) 51.

²¹³Frederick H. Lumley, Measurement in Radio (Columbus: Ohio State UP, 1934) 79-80. Many broadcasters did not distinguish between DX fans--responding with reception information and expecting verification from the station for logging or contest purposes--and listeners merely offering input or "applause." Thus the lack of response from broadcasters also dampened some correspondents' enthusiasm. See, for example, Homer G. Gosney, letter, Radio News 8 (1927): 1132, and the editor's reply.

CHAPTER 4 A HOUSEHOLD UTILITY: 1926

Radio is not a single, isolated experience such as seeing a Broadway show or taking a vacation. It is woven into the daily pattern of our lives year in and year out.¹

Paul F. Lazarsfeld and Harry Field,
The People Look at Radio (1946)

Introduction

Between 1924 and 1926 broadcasting continued to develop. By the spring of 1926, radio's future role as a household utility was assured. Radio's use to the American family, and specifically to the family woman in the American home had been established. This chapter describes the ways in which people came to use radio in 1926 (and how these same uses persisted in later years), and the aspects of the radio service of mid-1926--the stations, the programs, the advertising, and the equipment--that combined to transform radio broadcasting from a fad to a household utility.

The Uses of Radio

In the earliest years of the century, radio experimentation could provide amusement, communication, and

¹Paul F. Lazarsfeld and Harry Field, The People Look at Radio (Chapel Hill: U of North Carolina P, 1946) 5.

scientific knowledge. After World War I, radio became a satisfying pastime for many American hobbyists and amateurs. Gradually, during the 1920s, radio became useful within the structure of the family, and came to be viewed as a household utility. An examination of the ways in which people use radio today and used it during the years between the Depression and the advent of television can be added to the anecdotal information about the place of radio in people's lives during the 1920s to provide a picture of radio's usefulness, or utility.

In 1937 the Rockefeller Foundation funded a grant to Princeton University to study the role of radio in American life, and an Office of Radio Research was opened under the direction of Paul Lazarsfeld, Frank Stanton, and Hadley Cantril. In 1940 the Office of Radio Research was transferred to Columbia University. Dr. Stanton became director of research for the Columbia Broadcasting System in 1938 and later vice-president and general manager (1945), but continued editing volumes of radio research with Lazarsfeld throughout the 1940s. Lazarsfeld's work for the Office of Radio Research and later Columbia's Bureau of Applied Social Research forms the first body of systematic research attempting to identify radio's meaning for individuals and society.

Research into the relationship between the American

public and the electronic media has continued since then, most often focusing on the media's effects on society. However, within the past twenty years the "uses and gratifications" approach to communication research has focused on the audience members as active participants rather than passive recipients, making use of various media for both acknowledged and unacknowledged purposes.²

Although radio's place in American life has changed over 70 years, the ubiquity of the service and the economic value of the industry make it a continuing object of research.

Women Use Radio

In a 1982 National Association of Broadcasters study the most common reasons given for listening to the radio were: "it lifts my spirits" (77 percent), "companionship" (64 percent), and "to escape pressures of life" (62

²The uses and gratifications approach is "concerned with (1) the social and psychological origins of (2) needs, which generate (3) expectations of (4) the mass media or other sources, which lead to (5) differential patterns of media exposure (or engagement in other activities), resulting in (6) need gratifications and (7) other consequences, perhaps mostly unintended ones." Gratification can be cognitive (the acquisition of information), or affective (emotional gratification, including entertainment, escape, companionship, validation), and can have at least three distinct sources: media content, exposure to the media per se, and the social context that typifies media exposure. Elihu Katz, Jay G. Blumler, and Michael Gurevitch, "Utilization of Mass Communication by the Individual," The Uses of Mass Communication, ed. Jay G. Blumler and Elihu Katz (Beverly Hills: Sage, 1974) 20, 24.

percent).³ Mendelsohn wrote in 1964 that "generally speaking, radio functions as a diverting 'companion' and helps to fill voids that are created by (1) routine and boring tasks and (2) feelings of social isolation and loneliness."⁴ One of the largest categories of people facing "routine and boring tasks" in an environment without companionship (and with access to a radio) is the full-time homemaker. A 1967 study found that in addition to its passive "pleasant environment" function, radio was most often viewed as "companionship," especially by women "who must spend more time alone during the day than men."⁵

"Housewives" was early recognized as a specific group to which radio was particularly useful, across geographical and socio-economic barriers. When the Radio Institute of the Audible Arts⁶ solicited comments about radio's use to the farmer, Kansas senator Arthur Capper pointed out that

³Paul I. Bortz and Harold Mendelsohn, Radio Today--And Tomorrow (Washington: Natl. Assn. of Broadcasters, 1982) 5.

⁴Harold Mendelsohn, "Listening to Radio," People, Society, and Mass Communications, Lewis Anthony Dexter and David Manning White, eds. (New York: Free, 1964) 242.

⁵Verling C. Troidahl and Roger Skolnik, "The Meanings People Have for Radio Today," Journal of Broadcasting 12 (1967-68): 66.

⁶Philco Radio and Television Corporation founded the institute in 1934 "to stimulate a wider and more active appreciation of the audible arts among the American people." "Radio Institute Opens," New York Times 23 Nov. 1934: 28.

"farmers get from the radio something specifically useful to them in their own business. City people for the most part do not get anything comparable, because there is no sufficiently large unit among them engaged in one field of effort, except homemaking" (emphasis added).⁷

A gender difference in radio listening has also been found within groups that do not include home-bound family women. For example, although about half of a group of college students surveyed in 1950 listened to the radio while studying, women were found to listen to radio more overall, both on weekdays and weekends.⁸ A 1993 study found that female teenagers listen to radio more than male teens, and "make greater use of music for mood management."⁹

As early as 1940, Paul Lazarsfeld found women made more use of radio than men:

The proportion of each group listening to the radio more than two hours on an average evening after 6 p.m.:	
Male, no college, below 40	47.5
Male, college, below 40	44.4
Male, no college, 40 +	42.3
Male, college, 40 +	40.7
Female, no college, below 40	65.1
Female, college, below 40	48.2

⁷Edmund deS. Brunner, Radio and the Farmer (New York: RIAA, 1935) 10.

⁸A. L. Chapman, College-Level Students and Radio Listening (Austin: U of Texas, 1950) 20.

⁹Raymond L. Carroll et al., "Meanings of Radio to Teenagers in a Niche-Programming Era," Journal of Broadcasting and Electronic Media 37.2 (1993): 161.

Female, no college, 40 +	59.3
Female, college, 40 +	41.3 10

In 1939 the Journal of Applied Psychology featured a section titled "Radio Research and Applied Psychology." Among the findings published was a study of "radio-mindedness," the interest or importance attached to radio. Women were found to be more radio-minded than men.¹¹ Lazarsfeld wrote in 1948 that because women can more easily listen to radio during the day, the sex difference in radio listening is "due to the time schedules of men and women, rather than to any inherent appeals or characteristics of the medium."¹² However, Lazarsfeld's colleague Herta Herzog had already studied the audience for radio soap operas, and concluded that the "appeals and characteristics" of certain radio programs offered specific satisfactions to their primarily female audience. The three types of gratifications Herzog suggested were: (1) emotional release (a good cry, pleasant surprises, other people's troubles); (2) wishful thinking (to fill in gaps in their own lives); (3) explanations of life (help in solving their own problems, instruction in how to act).¹³

¹⁰Paul F. Lazarsfeld, Radio and the Printed Page (New York: Duell, 1940) 19.

¹¹Francis Ollry and Elias Smith, "An Index of 'Radio-Mindedness' and Some Applications," Journal of Applied Psychology 23 (1939): 17.

¹²Paul F. Lazarsfeld and Patricia L. Kendall, Radio Listening in America: The People Look at Radio--Again (New York: Prentice-Hall, 1948) 14.

In 1933, an extensive study of radio attitudes and habits in Minneapolis found that radio "seems to be most popular in the middle class and among housewives."¹⁴ According to another study in the same area 28 percent of mothers and 16 percent of fathers listened more than 4 hours a day.¹⁵ Other researchers found that parents used radio as an aid in disciplining children and in maintaining the children's daily schedules; radio was also used to encourage family entertaining and socializing at home.¹⁶

During the early 1920s, the automobile took Americans out of the house to an unprecedented extent. In 1925 one commentator suggested that

Radio with its magic is working a social revolution. The home is growing once more, and as we value it more highly and spend more time and thought on it the American home promises to become an even finer and more beautiful institution than it has been in times past when we have been proud as a home-loving nation.¹⁷

¹³Herta Herzog, "What Do We Really Know About Daytime Serial Listeners?" Radio Research 1942-1943, ed. Paul F. Lazarsfeld and Frank N. Stanton (New York: Duell, 1944) 8.

¹⁴Clifford Kirkpatrick, Report of a Research into the Attitudes and Habits of Radio Listeners (St. Paul: Webb, 1933) 25-26.

¹⁵Cited in Clifford Kirkpatrick, Report of a Research into the Attitudes and Habits of Radio Listeners (St. Paul: Webb, 1933) 26.

¹⁶Frances Holter, "Radio Among the Unemployed," Journal of Applied Psychology 23 (1939): 164-5.

¹⁷"Babson Sees Social Revolution as Radio Revives Home Life," The New York Times 5 April 1925, sec. XX: 16.

According to Senator Clarence Dill, a sponsor of early radio legislation, radio, unlike the automobile, strengthens the bonds of the family.¹⁸

Radio, wrote an RCA employee during broadcasting's earliest days, was the first solution to the conflict between the workingman who wants to stay home at the end of the day and the homemaker, who "prefers her pleasures in some other location than the scene of her daily labors."

The moving picture, the theatre, the automobile have been on woman's side, and insidious fighters they have been. Man has marshalled to his aid the phonograph, the player piano, and recently the radiola [sic]. This last, the newest recruit to the army of home, is proving day by day more potent, because its propaganda appeals to both sides of the conflict. Some day a play will be written entitled "Why girls do not leave home," and the hero will be a Radiola Grand.¹⁹

¹⁸S. R. Winters, "Radio Just as Important as Tubs in Home," Chicago Sunday Tribune 4 Oct. 1925, part 4: 10. Radio and the automobile were often compared for their effects. By the mid 1930s, many automobiles were equipped with radio receivers. At first feared as a distraction, car radios soon won acceptance as an aid to both driving safety and driver pleasure. For a discussion of the pros and cons of listening to radio on the road, see Edward A. Suchman, "Radio Listening and Automobiles," Journal of Applied Psychology 23 (1939): 148-157.

¹⁹G. H. Clark, "Short Broadcast Talks on Radio: The Influence of Radio Broadcasting on Modern Home Life" Clark Collection, Smithsonian Institution, SRM 134 009/95 040. Advertisements for radio equipment also made this point; see, for example, "Pals Again," advertisement, American Magazine Jan. 1923: 72.

Other Uses, Other Users

Communication can serve two general functions: transmittal of the factual and transmittal of the emotional, or "referential" and "expressive" functions, in the terms of Robert Park.²⁰ While a similar distinction can be made between radio's entertainment and "service" programs,²¹ programming of all types, as well as exposure to the medium in general, has been shown to be useful to listeners on both practical and psychological levels. For example, based on Herzog's findings, soap operas may have functioned more as service programming than as strictly "entertainment" for their listeners. On the other hand, some news reports may be useful only as entertainment.²²

Popular and radio magazines during the 1920s mentioned many (often humorous) needs served by the new communication medium: one could now safely talk back to politicians, razz inferior singers, and challenge the clergy;²³ one could perform supervised setting up exercises every morning;²⁴ one

²⁰Robert Park, "Reflections on Communication and Culture," American Journal of Sociology 44 (Sept. 1938) 205.

²¹Lazarsfeld used this term to cover programs about housekeeping matters, agricultural markets, hobbies, and advice. Lazarsfeld, Radio and the Printed Page 49.

²²Lazarsfeld grouped news and entertainment together, separate from the category "serious programs." Lazarsfeld and Field 55.

²³Newman Levy, "Sweet are the Uses of a Radio," Harper's Monthly Magazine 148 (1924): 273-4.

could attend events unsafe or unfitting to attend in person, such as prize fights.

The "Armchair Mood" vs. Secondary Listening

Until 1930 specific radio content was usually of secondary importance to the mere act of listening. In broadcasting's earliest years, the search for distant stations often took precedence over the search for enjoyable or interesting program content.²⁵ Although by the mid 1920s listeners were more interested in good local reception of pleasant programming, most stations' offerings were a similar blend of music and "talks" rather than discrete shows. Listeners were concerned only that the service be there, offering a type of programming appropriate to their needs or desires of the moment.

A 1925 Ladies Home Journal ad for Atwater Kent radios showed four typical scenes of radio listening: a bridge and tea party, a dinner party, dancing, and "listening in" (for which the ad suggested the weekly Atwater Kent Radio Artists program on seven listed stations).²⁶ In earlier years,

²⁴Julia Shawell, "Radio--The Alarm Clock of a Nation," Radio News 8 (1927) 96.

²⁵Interest in distance reception peaked in the winter of 1924-25, according to Robert H. Marriott, "United States Radio Broadcasting Development," Proceedings of the Institute of Radio Engineers 17 (1929): 1409.

²⁶"Atwater Kent Radio," advertisement, Ladies Home Journal Nov. 1925: 176-177.

broadcast listeners had sat with headphones clamped over their ears, listening intently for elusive signals from distant cities. As radiophone concerts became more popular and receiving equipment improved, many more people joined the radio audience; gradually interest in DX (distance reception) gave way to a more passive enjoyment of the broadcasters' programming. One radio book called this the "Armchair Mood."²⁷ Soon, however, as receivers and loudspeakers offered more consistent quality, people began to take radio music for granted and to use it as background for other activities.²⁸ This use of radio in the home has been called secondary listening.²⁹ By 1928, the radio had become a background to many people's daily lives. Visitors complained about radios left playing in the background during social calls.³⁰ Some critics even decried the

²⁷Major Ivan Firth and Gladys Shaw Erskine, Gateway to Radio (New York: McCaulay, 1934) 290.

²⁸In 1923 a listener wrote to radio organist Gladys Salisbury, "I put the receiver to my ears and paint pictures. . . It sure is a pleasure to paint hearing the sweet voices and the wonderful music played on your organ." Letter from George Newbert to organist Gladys Salisbury at KPO, San Francisco, Broadcast Pioneer's Library, scrapbook RG 4-1.

²⁹Secondary listening probably accounts for most radio use in 1990s America. A study from the 1950s suggested secondary listening was higher than primary listening. Delbert C. Miller, "Radio and Television," Technology and Social Change, ed. Francis R. Allen, et al. (New York: Appleton, 1957) 159.

³⁰Virginia Terhune Van de Water, "Other People's Children, Dogs, and Radios," American Magazine May 1928:

ubiquity of "good music," fearing that serious music was being devalued. While sympathizing with the housewife who enjoys washing dishes to radio music, one author warned of a growing tendency to use music "as a sort of characterless stimulant" to replace at home the constant noise of the workplace and the street. Music was becoming "a sort of mechanical accompaniment to our daily lives," just another public utility like the electricity, gas, and water.³¹

Radio Service 1925-1926

Many changes in the service offered by American broadcasting combined to increase radio's usefulness to the audience by 1926, including regularly scheduled programming, printed program listings in daily newspapers, daytime and other service programming, improved receiving and reproducing equipment, and changes in advertising practices.

In 1922 home economist Christine Frederick wrote that "the sooner radio broadcasting adopts . . . definite schedules of subjects and hours . . . , the more greatly will the public benefit."³² By 1926 this had been

190.

³¹Creighton Peet, "Music as Narcotic," Forum Aug. 1930: 113. A 1926 Article described the use of radio to increase production in a factory; however, the workers apparently listened to actual programs, such as the world series baseball games. John J. Morgan, "Radio Makes Factory Work Congenial," Radio News 8 (1926): 33.

³²Christine Frederick, "A Real Use for the Radio," Good Housekeeping July 1922: 144.

accomplished to a large extent, especially during the daytime hours and on stations that broadcast major sponsored evening programs like The Eveready Hour, programs that "come around every seven days at a fixed hour which makes them easy to locate . . . [and that] maintain a more or less uniform type of program, so the listener knows what to expect."³³

Newspaper coverage of broadcasting also helped listeners know what to expect, and daily program listings helped solidify the regular radio habit. During the early 1920s many newspapers owned radio stations,³⁴ and a large number of papers featured columns of radio information for their subscribers. By 1926 most newspapers featured

³³John Wallace, "The Listener's Point of View," Radio Broadcast 9 (1926): 41. The Eveready Hour went on the air in late 1923, offering a wide variety of entertainment, often unified by a program theme. See Julia B. Shawell, "Eveready Hour," Radio News 9 (1928): 1218+.

³⁴By 1922 48 newspapers owned radio stations (compared with 126 owned by radio stores and only 10 owned by "broadcasting companies"). Lawrence W. Lichty and Malachi C. Topping, eds., American Broadcasting: A Source Book on the History of Radio and Television (New York: Hastings House, 1976) 154-55. A 1927 survey by the American Newspaper Publishers Association found that 18 newspapers had studios in stations that were owned by other businesses, and 69 newspapers sponsored programs on unowned stations, while 97 papers gave "news, scores, market bulletins or other information over the air." More than half the "high grade stations" had some newspaper affiliation. Edwin Emery, History of the American Newspaper Publishers Association (1950; Westport: Greenwood, 1970) 198

listings of both local stations and major stations in distant cities. Gradually, however, as radio came to be used for advertising (even if only so-called goodwill publicity), publishers began to view the new medium as a competitor for advertising dollars. In 1926 Editor & Publisher magazine began the new year with a "Banish Free Publicity in 1926" campaign, primarily aimed at radio-related publicity and information.³⁵ Later that year the attack spread to the listing of programs that included business names, such as the Happiness [Candy] Boys, or the Goodrich Zippers.³⁶ Daily logs quickly became less useful to radio listeners, as program names were replaced by generic descriptions; for example, the Goodrich Zippers show was listed as "variety musicale" and the Whittall Anglo Persians were referred to simply as "Oriental Orchestra."³⁷

³⁵Frank T. Carroll, "Banish Free Publicity in 1926," Editor & Publisher 2 Jan. 1926: 11.

³⁶Ironically, the radio broadcasters were to be penalized for unwelcome restrictions imposed on their industry to some extent by their accusers: the newspapers were vocally at the forefront of demands that radio limit its commercial activities to "goodwill" advertising--the connection of a program with the name of a business--rather than the direct advertising of products and prices they felt to be their exclusive province.

³⁷"Advertisers Miss Their Free Mention," Editor & Publisher 22 Jan. 1927: 45. After five months of limited listings, New York City's newspapers returned to publication of "uncensored programs," citing concern for the "convenience and welfare of the reader." "Trade Names Back in N.Y. Radio Programs," Editor & Publisher 12 March 1927: 9.

Program Content

As Raymond Williams has pointed out, radio broadcasting was developed as a technology without a purpose, an "abstract process with little or no definition of preceding content."³⁸ Beginning with the experimenters who played phonograph records in order to check transmission and reception, broadcasters have found music the simplest content to present. Early stations relied primarily on music, interspersed with talks and lectures.³⁹

During the years of the radio fad, broadcasters congratulated themselves for providing everything the audience wanted and needed, based primarily on encouragement from listener postcards and the growing number of home radio sets; enthusiast magazines ran polls showing that current program content was "meeting the public demand with really astonishing accuracy."⁴⁰

³⁸Raymond Williams, Television: Technology and Cultural Form (New York: Schocken, 1975) 25.

³⁹Americans had historically attended lectures not only for enlightenment but for the enjoyment of hearing a good speaker. The Lyceum movement brought lectures, debates and readings to many American towns before the Civil War. The Chautauqua system grew out of a summer training camp for Sunday school teachers held at Lake Chautauqua, New York in 1874; by the early 1900 local chautauqua centers and travelling chautauquas were a popular form of adult education. Encyclopedia Americana (Danbury: Grolier, 1990).

⁴⁰"Radio Audience Decides Programs," Wireless Age Aug. 1923: 28. The "ballot" for the survey asked listeners to assign the ideal number of hours a day for each of several types of programming: classical and operatic music; jazz and

By the end of 1925 radio offered a variety of programming, in spite of the continued reliance on unpaid talent.⁴¹ One New York station began its broadcast day with exercises and physical training talks between 6:45 and 8 a.m.; women's programming filled the afternoon: music to do housework by, talks on fashion and housekeeping; a hotel orchestra offered "Music While You Dine" from 6 to 7:30 p.m. Next came the regular evening program: "plenty of music, with a few brief talks by well-known men," followed at 11 by supper club music and appearances by stage and screen performers, who might "talk about the stage, or give some little skit."⁴² Newscasts were not yet standard radio fare,

popular music; market and weather reports; speeches and lectures; and news, including sports. There was no space for "other." "The Ideal Program," Wireless Age May 1923: 22; Ward Seeley, "Giving the Public What it Wants," Wireless Age May 1923: 23-26. The attitude that the audience does not want and would not accept anything beyond what broadcasters have offered survives to the present. In his 1974 examination of popular cultural phenomena, Herbert Gans wrote that no one had yet tried "socially realistic" soap operas, but "the fact that they have not been tried . . . suggests that they might not be successful." Herbert J. Gans, Popular Culture and High Culture: An Analysis and Evaluation of Taste (New York: Basic, 1974) 59.

⁴¹It was news when St. Louis's new station announced in January 1926 that it paid its "program artists"; the station's total weekly payroll for station staff and performers was \$3,000. "KMOX Performers Get 3,000 a Week," New York Times, 17 Jan. 1926, sec. XX: 14.

⁴²Allan Harding, "Behind the Scenes at WOR," American Magazine Oct. 1925: 154.

and one trade magazine suggested radio would not be a "public utility" to the city dweller until stations offered brief news reports throughout the day.⁴³

Plays were becoming more frequent over the air in 1925,⁴⁴ but radio had as yet developed no programming suited exclusively to the audio medium. There were apparently no dramatic series with ongoing characters until January 1926 when two "song and patter" men working for Chicago's WGN introduced a ten-minute-a-night radio comic strip about a couple of "colored boys" named Sam and Henry.⁴⁵

Few program segments had thematic continuity.⁴⁶ One Chicago station announced with pride a new rule that soloists would be limited to three minutes, dance orchestras and speakers to eight, causing the "Listener's Point of View" columnist in Radio Broadcast, "who has . . . ranted at

⁴³"Broadcasting of News May Prove Radio's 'White Hope'," Radio Retailing 4 (1925): 471.

⁴⁴See, for example, W. T. Meenam, "Back Stage with 'Radio Mike'," Popular Science Monthly Sept. 1924: 68; Kingsley Welles, "The WGBS Prize Play Contest," Radio Broadcast 7 (1925): 757.

⁴⁵"Radio Programs for Today," Chicago Daily News 11 Jan. 1926: 25, "Radio Programs for Today," Chicago Daily News 12 Jan. 1926: 21. Although the show was broadcast only from WGN, its reputation was nationwide. In 1928 the show moved to WMAQ--the name changed to Amos 'n' Andy--and was syndicated nationally on transcription disk recordings. Amos 'n' Andy joined the NBC Blue network in August of 1929.

⁴⁶Wilson Wetherbee, "Broadcasting to Go: Next, 'Radio Presentations,'" Chicago Sunday Tribune 3 May 1925, part 9: 12.

great length against the 'kaleidoscope' program, to throw up his hands in holy horror. . . ."47

Radio attracted little creative experimentation during its first decade; the earliest broadcasters were technicians. Likewise it has been said that "newspapers were born of printers with spare time and surplus paper on their hands,"48 and that "most [American] film directors have been typesetters, not poets."49 According to historian Page Smith,

When any new form of expression presents itself to the members of a particular culture, it has the power to attract the most creative individuals; in the first moment, therefore, work is done that, however crude and awkward technically, can never again be equaled.⁵⁰

Smith cannot have been speaking of American broadcasting. F. Scott Fitzgerald said of the 1920s, "It was an age of miracles, it was an age of art, it was an age of excess, and it was an age of satire."⁵¹ Yet on the radio--one of the

⁴⁷John Wallace, "The Listener's Point of View," Radio Broadcast 9 (1926): 40.

⁴⁸G. Allen Foster, Communication: From Primitive Tom-Toms to Telstar (New York: Criterion, 1965) 84.

⁴⁹Gerald Mast, A Short History of the Movies, 3rd ed. (Chicago: U of Chicago P, 1981) 98,450.

⁵⁰Page Smith, Redeeming the Time, (New York: Penguin, 1987) 932.

⁵¹F. Scott Fitzgerald, "Echoes of the Jazz Age" Scribner's Magazine Nov. 1931: 460.

decade's greatest miracles--it was an age of soprano recitals and hygiene talks. Well into the 1930s, according to one broadcast history, "the best literary brains of the country had not vision enough to see where they might fit into the picture,"⁵² although, as poet Archibald MacLeish wrote, poets should be "storming the [radio] studios," because the technique of radio had "developed tools which could not have been more perfectly adapted to the poet's uses had he devised them himself."⁵³

Programming for women, an eager audience with access to radio receivers during a large part of the day, grew steadily between 1924 and 1926. By March of 1926, according to Radio Retailing,

Practically every station devotes a good portion of its time, particularly during the daylight hours, to features which are intimately associated with every woman's immediate personal interests. So enthusiastic has been the response to these women's features that many stations have instituted both morning and afternoon programs to comply with the demand.⁵⁴

Through the winter of 1925 General Electric's WDY offered weekly talks and "musical entertainments" by the Schenectady Women's Club.⁵⁵ WGBS, New York, offered mornings of

⁵²Firth and Erskine 21.

⁵³Archibald MacLeish, The Fall of the City: A Verse Play for Radio (New York: Farrar, 1937) xi.

⁵⁴"Radio's Splendid Programs--Are You Selling Them?" Radio Retailing 3 (1926): 253.

⁵⁵"WGY Forms Women's Club," New York Times 4 Oct. 1925,

exercises and beauty talks, interspersed with piano recitals; early afternoon programming included scripture readings, lectures on topics such as "scenario writing," and programming from the League of Women Voters.⁵⁶ WMCA listed continuous programming from early morning to night, including "food talks" and market reports.⁵⁷ A group of 12 stations nationwide participated in a radio cooking school; graduation classes were conducted on the air and "diplomas" mailed to the thousands of women who participated.⁵⁸

Although women won the constitutional right to vote in 1920, in 1924 the Lynds found that most of Middletown's women adopted the political opinions of their husbands.⁵⁹ As an RCA ad put it, "politics was no place for ladies, and what little the women knew about it they gleaned from scraps of the men folks' talk."⁶⁰ The broadcasting of the Democratic and Republican nominating conventions in 1924⁶¹

sec. XX: 17.

⁵⁶"Radio Programs Scheduled for the Current Week," New York Times 4 April 1926, sec. XX: 18.

⁵⁷"Radio Programs Scheduled", New York Times 8 April 1926: 21.

⁵⁸"Graduates Will Wear Head Sets," Miami Herald 19 Jan. 1926: 14D.

⁵⁹Robert S. Lynd and Helen Merrill Lynd, Middletown: A Study in American Culture (New York: Harcourt, 1929) 118.

⁶⁰"The Family Takes to Politics," advertisement, Popular Science Monthly Nov. 1924: 109.

⁶¹For a discussion of the use of radio at political

offered many women their first opportunity to "catch the inflection, to be thrown wholly into the political spirit."⁶² Radio took political discourse out of the masculine preserves like meeting rooms, clubs, and bars, and brought it into the home. "The radio," according to one article, "may even claim to be a pronounced step in the emancipation of womankind."⁶³

In 1925 Radio Retailing magazine enlisted the aid of the League of Women voters to increase female listenership, by offering programming about local and national issues. The campaign also encouraged women's groups to hold "radio teas" in homes and clubrooms, and asked those groups not only to advise stations but to provide actual programming, citing "the scarcity of good programs for and by women."⁶⁴

By the end of 1925, Literary Digest pointed out that Woman's place may or may not be in the home, but

conventions, see "Radio Convention Year," The Nation 9 July 1924: 34, and "Radio Never Weathered . . . , editorial, The Nation 23 July 1924: 85. Radio equipment manufacturers used the election coverage as a selling point; see, for example, "The Family Takes to Politics," advertisement, Popular Science Monthly Nov. 1924: 109; "Who's Elected," advertisement, Literary Digest 18 Oct. 1924: 67.

⁶²Christine Frederick, "Women, Politics, and Radio" Wireless Age Oct. 1924: 36.

⁶³"Domestic Uses for the Radio," American Review of Reviews Aug. 1922: 202.

⁶⁴"Radio for Women," Literary Digest 28 Nov. 1925: 20.

as a matter of fact that is where many of them are, and the radio broadcasters know it and build their programs on it. This has been done instinctively and without any special plan, but numbers that appeal especially to femininity have been taking more and more of the daylight hours and now programs are arranged for morning and afternoon that will appeal especially to women. .
 . 65

The use of radio for advertising continued to generate debate through the 1920s. As early as 1917 the radio amateur magazine QST, noting that Lee de Forest often transmitted talks by designers of radio equipment, suggested the possibility of "conducting regular advertising and news talks by radio."⁶⁶ Advertising as a method of funding for broadcasting came to be considered acceptable as long as it did not involve direct sales efforts such as the mention of price.⁶⁷ In a 1924 article describing the possible forms of radio advertising, Radio Broadcast asked: "How Will You Have Your Advertising?" The choices, in order of their subtlety, were: (1) "Mr. Albert Wagh of the Baked Bean Corporation of America will now describe the scientific preparation of the bean, from pod to pot"; (2) An announcement that the

⁶⁵"Radio for Women," Literary Digest 28 Nov. 1925: 20.

⁶⁶"Radio Telephone Advertising," QST April 1917: 34, 47.

⁶⁷In February, 1922, the first national radio conference approved "indirect advertising," limited to "a statement of the call letter of the sending station and of the name of the concern responsible for the matter broadcasted." "Proposes New Laws for Radio Control," New York Times 28 April 1922: 21.

orchestra of "some New York hotel . . . will now play for [your] edification";⁶⁸ (3) publicity in which "the object of the speaker is withheld" (4) advertising in its "customary and recognized forms," as in newspapers and magazines; or (5) a mail order house's "announcement of the week's bargains."⁶⁹

At the fourth National Radio Conference, held in 1925, the committee on advertising and publicity resolved that "the conference deprecates the use of radio broadcasting for direct sales effort, and any form of special pleading for the broadcaster or his products, which forms are entirely appropriate when printed or through direct advertising mediums."⁷⁰ In 1926 the program manager of AT&T's WEAf (then flagship of a thirteen-station network) told a group of advertising executives "Radio broadcasting is not an advertising medium. . . . Radio broadcasting is purely and

⁶⁸ Although the author called this the "least objectionable form," it was sometimes overdone. The handwritten station log for South Bend, Indiana's, WSBT notes that one performer "did too much advertising" when he repeatedly told listeners to come up to hear the new band. Station WSBT Log, Nov. 19 1925, Broadcast Pioneer's Library RG 80-1.

⁶⁹ James C. Young, "How Will You Have Your Advertising?" Radio Broadcast 6 (1924): 244-5

⁷⁰ Proceedings of the Fourth National Radio Conference (Washington: GPO, 1926) 18; rptd. in Documents in American Telecommunications Policy, Vol. 1, ed. John M. Kitross (New York: Arno, 1977)

simply good will publicity. You will notice that no prices are ever given, no directions where to buy, nor anything but a constant mention of the manufacturer's name or the name of the article."⁷¹ By the end of 1926 "good will" broadcast advertising was said to make up 80 percent of programming on the leading stations; smaller stations tended to feature "talks" rather than musical presentations, often including specific product information.

By 1928 the Federal Radio Commission could say that "without advertising, broadcasting could not exist."⁷² However, the FRC continued to debate the uses and limits of radio advertising. The typical attitude of writers in the popular media toward direct advertising, which no one could deny was of great value to the newspaper-reading audience, is reflected in this description by the former editor of Scientific American:

One western station, for instance, broadcasts a shopping service in the morning and evening, mentioning definite stores, articles, qualities--well, everything but the price. And that is typical of the extent to which some broadcasters have gone in the way of collecting pay for their efforts. Unfortunately, it is a fact that only the largest concerns can see the value of genteel publicity ⁷³

⁷¹Austin C. Lescarboursa, "How Much it Costs to Broadcast," Radio Broadcast 9 (1926): 370.

⁷²United States Federal Radio Commission, Annual Report of the Federal Radio Commission to the Congress of the United States Covering the Period from October 1, 1928 to November 1, 1928, (Washington: GPO, 1929) 35.

Although newspaper columnists and legislators decried direct advertising as an aesthetic offense,⁷⁴ to those for whom radio was a useful service rather than an amusement direct advertising might have added to the medium's value. Listeners from rural areas wrote to the Federal Radio Commission in support of direct advertising, pointing out its economic advantages to the listener.⁷⁵

During the 1920s women's domestic purchasing was increasingly guided by advertising information. When broadcast sponsors realized that women controlled most household spending, sponsors showed increasing interest in offering shows that would attract female audiences.⁷⁶ A

⁷³Lescarbourea, "How Much it Costs to Broadcast" 370.

⁷⁴Ironically, had direct advertising been allowed from the beginning the need for hiding sponsorship within the content of the programming would have been eliminated, and stations might have sold "spot advertising"-- short messages separate from editorial content, similar to newspaper and magazine advertising--thus allowing the surrounding program content to be produced by broadcasters and the creative community rather than by advertising agencies.

⁷⁵United States Federal Radio Commission, Second Annual Report (Washington: GPO, 1928) 19.

⁷⁶Home economist Christine Frederick turned her interest in the late 1920s from scientific housekeeping to boosting the new American consumerism. However, in spite of her earlier support of radio as an aid to rational housework there was no mention of the benefits of radio advertising in her study of women as "purchasing agent of the family." Christine Frederick, Selling Mrs. Consumer (New York: Business Bourse, 1929) 12. For a recent historical study of broadcast advertising targeted to women, see Eileen R. Meehan, "Heads of Household and Ladies of the House: Gender, Genre, and Broadcast Ratings, 1929-1990," Ruthless Criticism: New Perspectives in U. S. Communication History,

1933 study pointed out that

Surveys seem to show that the housewife is the one to whom radio advertising should be directed. She has the most influence upon family purchases and spends the greatest amount of time in the home. She is the member of the family most easily reached by radio broadcasts.⁷⁷

Access to housewives assured broad reach into various types of homes, because radio use by women cut across socioeconomic lines.⁷⁸ In addition, servants in the homes of the very wealthy found the same gratifications from radio as did women in more modest households--and often those servants controlled some of the household purchasing.⁷⁹

The Household Utility

David Sarnoff envisioned radio as a household utility in his 1916 memo, but added the phrase "like the piano or phonograph."⁸⁰ In the memo, Sarnoff set out several specific criteria he thought necessary to transform the amateur hobbyist's mass of wires and boxes and knobs into a

ed. William S. Solomon and Robert W. McChesney (Minneapolis: U of Minnesota P, 1993) 204-221.

⁷⁷Frederick H. Lumley, Measurement in Radio (Columbus: Ohio State UP, 1934): 204.

⁷⁸"Women and Wireless," Literary Digest 15 Dec. 1923: 25.

⁷⁹See Christine Frederick, "Radio Makes Servants Contented," Radio News 7 (1926): 1523+.

⁸⁰Gleason L. Archer, History of Radio to 1926 (New York: American Historical Society, 1938) 112.

simple-to-operate table-top "music box" that would interest members of the public who possessed no technical ability. Sarnoff wanted the music to be available by moving a single switch or knob. He specified a "loudspeaking telephone" rather than the headphones commonly used by radio amateurs, and a price of \$75 per set.⁸¹

The earliest sets used by broadcast listeners, however, usually required three adjustments; later in the 1920s receivers often had "four or five controls, three of which were critical."⁸² Articles in radio magazines gave instructions for proper tuning.⁸³ It was not until 1924 that several manufacturers introduced single-dial tuning, and replaced arbitrary scales with markings in wavelengths and, later, frequencies to aid in finding specific stations.⁸⁴ Early loudspeakers were a mixed blessing, often emitting a "squawking, rasping noise" unless "manipulated by

⁸¹In 1921, when most radio equipment was still sold as discrete parts to be assembled by the enthusiast, Hugo Gernsback, editor of Radio News, proposed a unified "Radiotrolola" with a single adjusting knob and integrated speaker. See "The Radiotrolola," editorial, Radio News 3 (1921): 479; Raymond Frances Yates, "Winning the Public to Radio," Radio News 3 (1921): 494.

⁸²E. P. Edwards, "Research and Manufacture in the Radio Art," The Radio Industry, 1928. (New York: Arno, 1974) 153.

⁸³"Right and Wrong of Receiver Tuning," Wireless Age June 1924: 42-3.

⁸⁴"At Last! Six Tubes With One Control," advertisement, Literary Digest 6 Dec. 1924: 57.

a competent radio operator."⁸⁵ The modern dynamic speaker with a paper cone was introduced by RCA in 1925.⁸⁶ By early 1926, the loudspeaker had been "brought to a state of perfection which would not have been dreamed of a year or two ago."⁸⁷ As cone-style speakers replaced tall speaker horns, manufacturers began to incorporate the loudspeaker into the radio cabinet. Yet few of these self-contained receivers were small enough to place on a mantle or table. Many cabinets were massive pieces of ornate wooden furniture with space for the several dry and storage batteries necessary to operate most sets during the 1920s. Between 1924 and 1926 this space could be used instead to house a battery charger or the later "battery eliminators" (plug-in transformers). At New York's World's Radio Fair in 1926, the greatest interest was generated by sets that operated on alternating current.⁸⁸

⁸⁵Orange Edward McMeans, "The Great Audience Invisible," Scribner's Magazine March 1923: 412.

⁸⁶ Robert Grinder and George H. Fathaver, Radio Collector's Directory and Price Guide (Scottsdale: Ironwood, 1986) 50.

⁸⁷M. C. Rypinski, "Radio, Our Newest Utility," Radio Retailing March 1926: 277. For a review of loudspeaker development and a description of loudspeakers available by the end of 1926, see "Loudspeakers and Their Characteristics," Radio News 8 (1926): 642+.

⁸⁸"For Greater Harmony in the Air," The Independent 117 (1926): 378.

A 1926 survey by Radio Retailing magazine found customers most interested in (1) simplicity of control, (2) quality of tone, and (3) battery elimination.⁸⁹ Emphasis was shifting to improved local reception, as interest in the sport of DX waned.⁹⁰ When Radio News asked its readers to describe the ideal radio set, the result sounded remarkably like Sarnoff's Radio Music Box.⁹¹ There was no indication, however, that this ideal set was readily available commercially. Small self-contained radio sets of good quality were the exception until after 1930,⁹² and few sold for less than Sarnoff's predicted \$75. According to Radio Retailing the average set of 1926 cost \$80, had two tuning controls, employed five tubes, and used storage batteries and a loudspeaker.⁹³

Before 1926, it was necessary "to be an expert technician in order to qualify as the owner of a Radio [sic]

⁸⁹William C. Alley, "What Will Your Patrons Demand in the Sets They Buy This Fall?" Radio Retailing Aug. 1926: 48-51.

⁹⁰"Radio for 1926: A Forecast," Radio Broadcast 8 (1925): 24.

⁹¹"Ideal Radio Set," Radio News 8 (1926): 8.

⁹²In 1930, Crosley introduced the "Buddy" a "table, mantel or clock type self-contained receiving set" with built-in power speaker and AC power. The price was \$64.50 including tubes. "Beauty," advertisement, American Magazine Nov. 1930: 125.

⁹³"The Average 1926 Radio Set . . . ," Radio Retailing Feb. 1926: 155.

set."⁹⁴ Yet by 1922 the radio had already overtaken the piano in importance to some American households. An article in the Saturday Evening Post predicted that "soon there will be more radiophones in use than pianos, and who dares say it will not be as much a household utility in the future as the telephone, the bathtub and the kitchen stove?"⁹⁵ David Sarnoff may have underestimated the public's willingness to fiddle and tinker (and to spend a high percentage of its disposable income⁹⁶) for the magic of plucking voices and music out of the air. A simple "Radio Music Box" was not necessary in order to entice a large percentage of the American public to try out the new form of entertainment.⁹⁷

⁹⁴Orrin E. Dunlap, Jr., "From a Toy to the Nation's Joy," Radio Digest Jan. 1931: 56.

⁹⁵Floyd W. Parsons, "New Day in Communication," The Saturday Evening Post, 15 April 1922: 145.

⁹⁶In 1925 radio receivers cost between \$50 and \$460, or between 1.9 percent and 17.6 percent of disposable household income. Martha Olney, Buy Now, Pay Later: Advertising, Credit, and Consumer Durables in the 1920s (Chapel Hill: U of North Carolina, 1991) 104.

⁹⁷Sarnoff felt the project would be economically feasible if RCA could sell one million "radio music boxes," putting "radio music boxes" in 7 percent of American households. By 1926 one million complete radio sets had already been produced for the public; in 1923 more than one million radios of all sorts were already in use, including many receivers assembled from parts by hobbyists. Seven percent of the households in the 1920 census (1.7 million out of 24.4 million) had at least one radio by 1923; by 1933 56.2 percent of American households had radios according to a study by the CBS network (figures from "Statistical Survey. . ."; Page, "The Nature of the Broadcast Receiver"; and Lumley).

However, something more than a small box with a simple switch or dial was necessary before listening to the radio could become integrated into the quotidian rhythm of the household. Radio did have to demonstrate a usefulness beyond its novelty value to the American family. For this reason, many manufacturers in the mid 1920s featured women in advertisements for radio receivers.⁹⁸ Almost all the ads featuring women emphasized radio broadcasting's appeal to that group, rather than using women to demonstrate ease of operation.⁹⁹ In many American homes, largely as a result of interest on the part of the family woman, radio had by the

⁹⁸See, for example, "Radak Radio Receiving Sets," advertisement, American Magazine Dec. 1922: 156; "Half a Continent on Indoor Loop," advertisement, American Magazine April 1923: 189. The oddest women-oriented receiver ad is probably the one addressed "To the Girls--Workers All," that ran in the humor magazine Life's 1926 "Working Girls" issue. All girls are workers, it read, Rosie the store clerk, Annie the secretary . . . even "Tottie Brightlife who works Jack Nuriche for the good things in life" and "little Gloria Staholm" who is also working when she "slips an arm around Daddy's neck and playfully pulls his ear." How else, the ad asked, is she to "gain those things that make life pleasant," such as a new Grebe Synchrophase radio? "To the Girls--Workers All," advertisement, Life 21 Jan. 1926: 25.

⁹⁹The "ease-of-operation" ads often featured children. See, for example, "What you Want . . .," advertisement, American Magazine Feb. 1925: 137. The advertisements were not always believable; for example, a small 1924 ad in Popular Science Monthly showed a little girl about four years old sitting at a \$177 set that featured "three simply operated controls" for tuning, and five additional knobs for the "finer shades of tone refinement." "Federal's Finest," advertisement, Popular Science Monthly Sept. 1924: 129.

end of the winter of 1926 made the transition from novelty fad to household utility. By mid 1926, 528 American broadcasting stations¹⁰⁰ were offering programming to 27 million people over five million radio sets.¹⁰¹ Radio was becoming "part of the warp and woof of our lives" proclaimed the March 1926 issue of Radio Retailing, with an increase in "strictly utility" programming regularly available.¹⁰²

"A Radio Reign of Terror"¹⁰³

In the spring of 1926, 519 applicants sought to join the 530 stations already on the air. Because of overcrowding and interference, Secretary of Commerce Herbert Hoover had not issued a new license since October 1925.¹⁰⁴ In April the U.S. District Court in Illinois, in United States v. Zenith, held that Secretary Hoover did not have the right under the 1912 Radio Act to control broadcast

¹⁰⁰United States Department of Commerce, Annual Report of the Chief of Radio Division to the Secretary of Commerce for the Fiscal Year Ended June 30, 1926 (Washington: GPO, 1926).

¹⁰¹"27,000,000 Listen to 5,000,000 Radios," New York Times 8 April 1926: 21.

¹⁰²M. C. Rypinski, "Radio, Our Newest Utility," Radio Retailing March 1926: 277.

¹⁰³The phrase is from a 1930 description of the radio chaos in the second half of 1926, in Alfred N. Goldsmith and Austin C. Lescarbourea, This Thing Called Broadcasting (New York: Holt, 1930) 60.

¹⁰⁴"519 Have Applied for Radio Licenses," New York Times 4 April 1926, sec. XX: 17.

licensing.¹⁰⁵ In July the United States Attorney General rendered an opinion that the Secretary of Commerce was without the power to refuse licenses, limit transmission power, assign wavelengths, or fix hours of operation.¹⁰⁶

The Commissioner of Navigation's report to the Secretary of Commerce in June of 1926 warned that in spite of radio's "improved service" and the audience's "greater satisfaction," in the absence of regulation "it is difficult at this time to forecast what the actual conditions may be during the coming winter."¹⁰⁷ By the end of the summer The Independent magazine could still say Hoover was mistaken when he "vowed chaos would result," claiming that most broadcasters "maintain a mutual respect." In spite of hundreds of pending applications, fewer than thirty new stations had gone on the air.¹⁰⁸ However, by the beginning of winter the same magazine warned that "new stations are

¹⁰⁵"Hoover's Powers Over Radio Denied," New York Times 17 April 1926: 1.

¹⁰⁶United States Department of Commerce, Selection from Annual Report of the Chief of Radio Division to the Secretary of Commerce (Washington: GPO, 1927) 1; rptd. in Documents in American Telecommunications Policy, vol. 1, ed. John M. Kitross (New York: Arno, 1977).

¹⁰⁷United States Department of Commerce, Selection from Annual Report of the Commissioner of Navigation to the Secretary of Commerce for the Fiscal Year Ended June 30, 1926 (Washington: GPO, 1926) 18.

¹⁰⁸Silas Bent, "Radio Squatters," The Independent 117 (1926): 389.

now crowding in at the rate of nearly one a day."¹⁰⁹ In Philadelphia, listeners who tuned in for a ball game were "obliged . . . to listen at the same time to a piano solo, a talk on the care of the baby, a lecture on the Chinese situation and the farm market reports."¹¹⁰ As one of the new Federal Radio Commissioners later described the period, "interference between broadcasters on the same wave length became so bad at many points on the dial that the listener might suppose instead of a receiving set he had a peanut roaster with assorted whistles."¹¹¹ Calls for the passage of radio legislation increased,¹¹² and in February of 1927 a new Radio Act was finally passed.

Radio's Entertainment Age

In 1926 a long-time radio writer pointed out that "the transition from amateur programs to professional programs has been so gradual that radio audiences have failed to realize the vast change that has taken place in the services of the leading broadcasting stations."¹¹³ Identifiable

¹⁰⁹"Survival of the Loudest," The Independent 117 (1926): 663.

¹¹⁰H. O. Davis, Empire of the Air (Ventura: Ventura Free Press, 1932) 52.

¹¹¹Federal Radio Commission, Annual Report of the Federal Radio Commission to the Congress of the United States for the Fiscal Year Ended June 30, 1927 (Washington: GPO, 1927) 11.

¹¹²For example, "Every Man His Own Broadcaster," The Independent 116 (1926): 507.

radio programs presented on regular schedules had come to predominate in station schedules, and listeners began to take more interest in radio performers and announcers.¹¹⁴ In July 1926 Popular Radio magazine began its first regular column about the "broadcast artists," answering questions from readers about the marital status of sweet-voiced announcers, the race of comedy duos, and the clothing preferences of commentators.¹¹⁵

The biggest change in American radio broadcasting came with the arrival of true national networks at the start of 1927. In July of 1926, American Telephone and Telegraph announced the sale of WEAf to RCA, and by the time the Radio Act went into effect in early 1927 the RCA's National Broadcasting Company had two networks on the air, the "red" network with WEAf as flagship station, and the "blue" from WJZ.¹¹⁶ A second national network organization, that would

¹¹³Austin C. Lescarboursa, "How Much it Costs to Broadcast," Radio Broadcast 9 (1926): 369.

¹¹⁴For a description of the radio broadcasting industry at the beginning of 1927, see Chester T. Crowell, "The Business End of Broadcasting," Saturday Evening Post 26 February 1927: 47+.

¹¹⁵"The Yes and No Man," Popular Radio 10 (1926): 280. By mid-1926, radio magazines were serving a large number of home listeners as well as technical hobbyists and enthusiasts: Radio News boasted a circulation of a quarter million; Popular Radio, 96,000; Radio in the Home, 80,000; and Radio Broadcast, 66,000. "Radio Publications in America," Radio News 7 (1926): 1526.

¹¹⁶For a description of the new National Broadcasting Company, see "Broadcasting on a National Scale," Literary

eventually become the Columbia Broadcasting System, was formed the same year.¹¹⁷ By early 1927 a wide variety of shows was available for evening listening. Over the next several years, as business began to recognize the potential benefit of national exposure through radio broadcasting, radio programming began to reflect the amount of money invested by program sponsors.¹¹⁸

The year 1929 is often considered the beginning of the great entertainment age of American broadcasting.¹¹⁹

Digest, 2 Oct. 1926: 13. Network broadcasting allowed several stations to be interconnected, so that all could broadcast programming originating at one. By January 1923, American Telephone and Telegraph, with access to high-quality telephone lines, had connected two stations; by June of that year they could offer a 4-station network. By 1925, 13 stations participated in the WEAf network, and by 1926, 17. See William Peck Banning, Commercial Broadcasting Pioneer: The WEAf Experiment, 1922-1926 (Cambridge: Harvard UP, 1946): 264, 289. RCA's WJZ and WGY were networked with several other stations; see Austin C. Lescarbourea, "How Much it Costs to Broadcast," Radio Broadcast 9 (1926): 370.

¹¹⁷By the fall of 1926 there were seven "chains" of stations serving various areas of the country; see "Broadcast Miscellany," Radio Broadcast 9 (1926): 393.

¹¹⁸Nationwide programming emanating from large cities was not without its detractors. One commentator found that performers were signed up for their name value only, even if their skills did not translate well into the aural medium. The author's examples included Will Rogers, and the lariat that seemed so important an aspect of his stage appearances. Rogers, however, went on to become a popular radio humorist before he died in 1935. "The Jealous Mike," editorial, The Independent 117 (1926): 631.

¹¹⁹Robert E. Summers and Harrison B. Summers, Broadcasting and the Public (Belmont: Wadsworth, 1966) 54.

According to critic Gilbert Seldes, a "revolution" took place in late 1929 "when millions of Americans, with more money to spend on recreation than they had ever had before, spent nothing because they were staying home to be entertained by the Amos 'n' Andy radio program."¹²⁰ Actually, such simple "character shows,"¹²¹ which moved at the actual pace of daily life, may have served more as companionship than entertainment; Amos 'n' Andy, whose predecessor Sam 'n' Henry went on the air in 1926,¹²² can be seen as the bridge from radio's emergence as a household utility to the medium's heyday as America's primary form of entertainment.

Gradually, as America entered the 1930s, vaudeville moved from the stage to the microphone and the depression economy gave Americans more reason to seek entertainment at home.¹²³ The 1930s came to be known as radio's Golden Age.¹²⁴

¹²⁰Gilbert Seldes, The Public Arts (New York: Simon, 1956) 1.

¹²¹Creators Freeman Gosden and Charles Correll faced each other across a table in a small room, without supporting cast, sound effects, or studio audience.

¹²²See "Radio Programs for Today," Chicago Daily News 12 Jan. 1926: 21, for a description of the new show.

¹²³See Arthur Frank Wertheim, "Relieving Social Tensions: Radio Comedy and the Great Depression," Journal of Popular Culture 10 (1976): 501-519.

¹²⁴Norman Corwin, the radio writer who finally developed an original style of audio presentation during the

Radio Grows Up

As political unrest grew in Europe, radio took on added importance to the American household as a source of up-to-the-minute information; wartime reporting completed the development of radio journalism. Radio entertainment continued during the war years, important both as a diversion and as a medium for patriotic messages. The decade following the end of World War II saw a radio service similar to that of the previous years, in the face of growing interest in and availability of television.

Radio's role shifted as the popularity of evening entertainment television grew, but its importance in American life can hardly be said to have diminished. Radio was still the nation's alarm clock, its daytime companion (especially for homemakers and the home-bound), its "music box." In the face of a constantly expanding galaxy of electronic home entertainment offerings, radio continues to provide companionship in the cars and homes of almost all Americans.¹²⁵

1930s, has called this era "the shortest golden age in history." Norman Corwin, Trivializing America (Secaucus: Stuart, 1983) 39.

¹²⁵Ninety-nine percent of American households have at least one radio; the average number per household is 5.6. Ninety-six percent of Americans listen to radio at some time during the week. Radio Advertising Bureau, Radio Facts for Advertisers (New York: RAB, 1990) 3-4.

CHAPTER 5 CONCLUSIONS

This study has traced the development of radio from a scientific pursuit to a household utility during the 1920s in the United States of America. Accounts in the popular press call attention to the importance of the female listening audience in the acceptance of radio as part of America's daily life, and indicate that by the spring of 1926 radio had taken its place in the American home.

The Development of Radio Listening

The question underlying this study was "How did it happen that America's wireless hobby developed during the 1920s into the daily activity of radio listening, transforming radio into an information and entertainment service considered a household utility?" According to Merlin Aylesworth, the National Broadcasting Company's first president, "like that beloved character 'Topsy' in Uncle Tom's Cabin, broadcasting was an experiment that just 'grewed and grewed.'¹ Although from a corporate viewpoint radio broadcasting developed without the guidance of

¹Merlin H. Aylesworth, The Modern Stentor: Radio Broadcasting in the United States (Princeton: Princeton UP, 1928) 7.

experts, an examination of the earliest years of broadcasting service shows that the listening audience helped guide radio's development by the uses to which it put the new technology.

Radio broadcasting has been called "a classic example of the unanticipated consequences of technological change."² During the first year of the radio fad, much was written of the new medium's potential usefulness to society.³ The earliest broadcasters--mostly scientific experimenters, or businesspeople motivated by curiosity and later by the hope of accruing goodwill publicity--had no vision of what radio's service should be or would become. It was the listening public that found roles for radio, and in that way helped shape radio's development.

The listeners' control over the content and purpose of radio broadcasting, however, was limited to a ye-a-or-nay vote on whatever programming had already been offered. Listeners expressed approval of many of broadcasting's earliest offerings without considering what other material

²Hugh G. Aitken, The Continuous Wave: Technology and American Radio (Princeton: Princeton UP, 1985) 12.

³According to one columnist, in 1922 radio was expected to "make the world safe for democracy, bring the heathen to light, keep the boy off the streets, encourage home cooking, give wits to the witless, prevent war, and bring about an early utopia." John Wallace, "The Listeners' Point of View," Radio Broadcast 9 (1926): 37.

or service might be possible. Because the remarkable new service did not replace an older technology or source of entertainment, the public had nothing with which to compare it.⁴ Still, a large number of listeners found that radio could play an important role in daily life. Women, in particular, found radio could provide companionship, distraction, information, and entertainment within the social and physical structure of the home, often without interrupting other activities. The interest in and use of radio by women grew steadily during the first half of the decade. By the time the Zenith court case loosened government control and brought increased reception problems many women had come to view radio as a household necessity, and therefore little momentum in radio's development was lost during the uneasy year between Zenith and passage of the Radio Act of 1927. Although the development of nationwide network broadcasting after 1926 brought great advances in radio entertainment and marked the start of radio's "Golden Age," by that time radio had already achieved a place of real utility to the radio-owning family.

⁴In a 1950 article warning television broadcasters not to make the same mistakes made in early radio, critic John Crosby wrote that "it was not the responsibility of the listener to request something he had never heard of." John Crosby, "Seven Deadly Sins of the Air," Life 6 Nov. 1950: 150.

Women and Radio

In order to understand radio's usefulness, or utility, two questions required answers: (1) What groups of people made up the earliest radio audience? and (2) What were the characteristics of radio's place in the American household that caused it to be considered a household utility?

During the 1920s the number of radio listeners grew faster than the total number of receivers, as more members of each household became interested in listening to the radio.⁵ Because men and boys made up a large majority of the earliest radio fans, it would appear the added household members often included at least one adult woman. As a consequence, the proportion of women in the audience increased during the 1920s. This proportional increase, more than the increase in actual number of listeners, may have had the greatest impact on the acceptance of radio as a part of daily life rather than as an occasional entertainment medium like motion pictures or phonograph

⁵In 1922, there were an estimated average 1.25 listeners per set; by 1926, there were 4 per set.

<u>Year</u>	<u>Homes with sets</u>	<u>Audience</u>	<u>Per set</u>
1922	60,000	75,000	1.25
1923	1,500,000	3,000,000	2
1924	3,000,000	10,000,000	3
1925	4,000,000	15,000,000	3.75
1926	5,000,000	20,000,000	4
1927	6,500,000	26,000,000	4
1928	7,500,000	35,000,000	4.66

"Statistical Survey of the Radio Business," Radio Retailing March 1928: 36-37. Estimates are as of January 1, including factory- and home-built receivers.

records. The particular service that gave radio value and utility in the American household during the 1920s was its usefulness to the American woman in the home. When radio was brought into the household, the family woman found not just pleasing entertainment, but companionship and a useful and informative service. It was this utility that prevented radio from becoming merely a more sophisticated phonograph, or a "radio music box," especially during those earliest years when reception was difficult and programming perfunctory.

The availability of the loudspeaker meant women could listen to radio while they were engaged in other chores. The advent of all-day programming, and specifically programs of interest to homemakers, heightened women's interest in listening. Although musical programming could provide pleasant background to the day's housework, women found the "service" programming provided both companionship and information, and aided in household management and scheduling. This knowledgeable companionship offered by daytime radio programming ensured radio's place in the American home. A review of research into the more modern uses of radio, covering the years from the depression to the present, showed that radio has consistently served a companionship function for the listening audience.

According to a 1926 article in the American Journal of

Sociology, radio broadcasting's only value was as a novelty: "No powerful stimulation of man's instincts or emotions accounts for the spread of the popularity of broadcasting."⁶ Although later research would challenge that statement, at the time it may have been literally correct: by 1926 radio may not have stimulated man's instincts or emotions; it had, however, already come to fill some emotional needs in the life of many American women. Susan Douglas has written that broadcasting was a "white, middle-class, male construction", and that "as we consider how meanings are constructed in our culture we must never lose sight of whose meaning they are and of who had no voice in the process."⁷ Yet this research shows that women, through the uses they made of radio between 1922 and 1939, played an important role in the development of radio service and its meaning in American life.

Learning about Radio

This study sought to describe by what means the American public learned about radio listening and was moved to participate. Examination of the popular press of the era shows that people could learn about the technology of

⁶Marshall D. Beuick, "The Limited Social Effect of Radio Broadcasting." American Journal of Sociology 32 (1926-27): 619.

⁷Susan Douglas, Inventing American Broadcasting, 1888-1922 (Baltimore: Johns Hopkins UP, 1987) xxix.

wireless communication primarily from magazines, and about the applications of that technology from articles in newspapers. However, during the 1920s the general-interest press seems to have offered very few "how to become a listener-in" or "how to choose a radio" articles. Many newspapers during the first half of the decade offered weekly columns of technical advice for both the seasoned participant and the beginner who had just purchased equipment, but few gave the merely curious enough information to enter the pastime. Once someone became a radio enthusiast, he or she could subscribe to one of the radio magazines, but only those people who already read scientific magazines such as Scientific American or Popular Science Monthly got specific information on how to begin participating. Many people learned how to become users of radio through word of mouth and by visits to stores selling radio receivers. Neighbors and friends sparked people's interest in radio; youngsters often learned about radio through scouting or school, and introduced their parents to the new pastime. Advertisements for equipment and announcements of radio shows helped spread interest, as did displays in department stores and specialty shops.

The Point of Transition

At what point did radio become a household utility?

In the spring of 1926, before the court decision in U.S. v. Zenith, radio had achieved a usefulness, or utility, to the household--and specifically to the family woman who was in charge of that household--that assured its place in society for the next several decades.

By the middle of 1926 radio service was nationwide. Equipment had improved in reliability and ease of operation,⁸ and loudspeakers were in universal use, freeing listeners from the limitations imposed by headphones. By spring of 1926, uninterrupted programming was available (on a particular wavelength, if not by the same broadcaster). Radio could now provide the background to other activities, especially work within the household such as kitchen chores and childcare. Receivers were widely available, as was information about radio broadcasting. Local and national program listings were printed in daily newspapers; these listings contained detailed information on program content that was to become unavailable by the end of the year because of the newspapers publishers' campaign against free publicity for radio sponsors.

The number of stations, and therefore the potential for interference, was lower in the spring of 1926 than in

⁸Although radio sets that run on household electric current were just being developed, the cumbersome and hazardous wet-cell batteries of the earliest years had already been replaced by smaller dry cells and the newer battery eliminators.

previous years and lower than it would be in the future. At that time 528 stations were on the air, compared with 571 the previous year and 694 in 1927.⁹ Although nighttime programming at this point was still almost exclusively music and other light entertainment, daytime programming was varied, and was aimed specifically at service to the audience, primarily women in the home.

After the decision in U.S. v. Zenith showed the Department of Commerce to be powerless to control radio broadcasting, some listeners-in, especially in urban areas, tired of the constant battle to extract a clear signal from the overcrowded ether as stations jumped frequencies or increased the power of their signals. Also, the newspaper publishers' campaign to eliminate clear and complete program listings made program selection more difficult. American radio broadcasting in the spring of 1926 was no longer a novelty, yet programming had not achieved the variety and professionalism that was to characterize the network era that would begin in 1927. Still, those segments of the population who found radio's service useful and who saw

⁹Figures from United States Department of Commerce, Annual Report of the Chief of Radio Division to the Secretary of Commerce for the Fiscal Year Ended June 30, 1926 (Washington, GPO, 1926); United States Department of Commerce, Selection from Annual Report of the Chief of Radio Division to the Secretary of Commerce (Washington: GPO, 1927; rptd. in Documents in American Telecommunication Policy, Vol. 1, ed. John M. Kitross (New York: Arno, 1977).

radio's potential to fill a great need persevered, and continued to offer suggestions for improvement. In this way, women in the audience who stuck with radio during the difficult period between 1925 and 1927 had an impact on the development of radio programming and scheduling, and on its continuing importance in daily life.

It was neither the early radio stunts and specials nor the mid-decade evening entertainment programming that first gave radio its place in the American household and in American life. Daytime programming demonstrated radio's possibilities to the family woman, and began radio's gradual integration into the household routine. It was true in 1926 as it would be more than fifty years later, that "radio presents time according to 'normal' everyday routine . . . keeping pace with the listener's sense of real time throughout the day."¹⁰

Radio would become a true entertainment medium in the early 1930s, with paid entertainment, national network coverage, and regularly scheduled evening programs. But by then radio had already become a household utility. In fact, the lack of discrete, separately produced and sponsored programs probably aided radio's integration into the household rhythm, as "listening-in" became an accepted part

¹⁰David L. Altheide and Robert P. Snow, Media Logic (Beverly Hills: Sage, 1979) 25.

of the day's schedule, based more on the audience needs and the rhythm of the day than on the quality of individual programs.

It has been suggested that "the more closely the behavior demanded for use of the innovation is compatible with the structure of the culture prior to its introduction, the greater are the chances of its acceptance."¹¹ In the case of radio's acceptance by the American woman, an entertainment and information service that allowed or even required women to remain within the home was compatible with the society's perception of women's proper "place." The importance of the female audience in the development of radio service and program content continued in the years following the 1920s, as advertisers realized to what extent women controlled household spending.

Suggestions for Further Study

Daniel Czitrom has pointed out the contribution of "the others"--ethnic and racial minorities--to the early cultural history of American film, radio and television.¹² Yet few researchers have examined the role of women as a group in the development of society's uses of such new information

¹¹Saxon Graham, "Cultural Compatibility in the Adoption of Television," Social Forces 33 (1954-55) 166-170.

¹²Daniel J. Czitrom, Media and the American Mind: From Morse to McLuhan (Chapel Hill: U of North Carolina P, 1982) 191.

and entertainment technologies. An exception is the recent work of Cheris Kramarae, who pointed out:

If technology practices are human structures and organizations, how strange that most historians, scientists and social critics haven't included consideration of women's social relations as essential to understanding technology.¹³

Although it is important for society to become aware of the contributions of individual women who as scientists or entrepreneurs had a gender-neutral impact on technological development and thereby demonstrated that invention and business skill are not gender-specific, it is at least as important to acknowledge that women's historically unique place in society has allowed them, as a group, to effect many changes in the social uses of invention, even those technologies usually considered to be male dominated. In the case of radio, women saw a new technology well suited to their needs and found ways to make it useful within their lives and their households.

A closer examination of women's effect on the development of broadcasting practices and policies would fill a large gap in the broadcast history literature. A model for the in-depth historical study of women's role can

¹³Cheris Kramarae, "Gotta Go Myrtle, Technology's at the Door," Technology and Women's Voices, Cheris Kramarae, ed. (New York: Routledge, 1988) 6.

be found in Virginia Scharff's Taking the Wheel: Women and the Coming of the Motor Age.¹⁴

Radio would also have an effect on the lives of women. By 1930 radio's service to the women of America had been recognized:

So it is that Radio has lifted Woman out of herself; lessened her loneliness; placed her in her proper relation to the world as it is today. It has brought her a consciousness of the importance of herself as a personality. Through it she has found a life of broadened horizons--and the road to fuller happiness.¹⁵

A study of the changes in individual women's lives as a result of the arrival of radio in the American home during the 1920s would be difficult at 70 years' distance. However, more recent technological innovations--for example, the personal computer--might be suitable subjects for such a study.

¹⁴Virginia Scharff, Taking the Wheel: Women and the Coming of the Motor Age (New York: Free, 1991).

¹⁵Betty McGee, "Opened Doors," Radio Digest Sept. 1930: 125.

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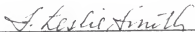
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Laura Pelter McCarthy was born in New York City on June 26, 1945. She has worked as a newspaper feature writer, and held various positions in non-commercial and commercial radio broadcasting for many years before beginning a career in teaching. She received a B.S. degree in communications (1989) and an M.S. degree in mass communications (1990) from Florida International University, and joined the University of Florida doctoral program in 1990. She is an assistant professor at Lynn University, Boca Raton, Florida.

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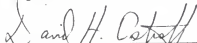
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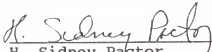
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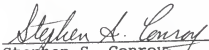
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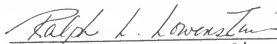


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